of infections now may be associated with the lower rate of transmissibility during the latent "period of infection." Therefore, although the ABC message (abstinence, be faithful, use a condom) is popular with the American government, its application in other parts of the world may not have the impact required. A range of approaches are needed tailored to the drivers of the epidemic.⁶

Until recently most authorities would not countenance treatment with antiretroviral agents on a large scale in centres with the biggest epidemics and instead advocated prevention alone, despite the comparative lack of evidence of its effectiveness. This view has been changed by the reduction in the cost of antiretroviral therapy as a result of generic manufacture and political pressure applied to the pharmaceutical companies, and by the realisation that treatment is possible in resource poor settings with rudimentary laboratory facilities. The need for close monitoring of antiretroviral treatment is the subject of a large MRC trial in southern Africa (www.ctu.mrc.ac.uk/studies/dart.asp). So far adherence rates to treatments have been high and toxicities low in resource poor settings.⁷ The widespread provision of antiretroviral treatment gives a sense of hope for people who are infected and should improve their willingness to undergo an HIV test, which may reduce the risk of transmission, and to accept measures that prevent mother to child transmission.

In the face of this global catastrophe, the epidemic in the United Kingdom seems both small and parochial. Nevertheless, the latest published figures from the Health Protection Agency show a 20% increase in the prevalence of HIV in 2003 and 2004 compared with 2002,^{8,9} partly because of infections acquired abroad. Some of this increase may be due to the identification of previously infected individuals. However, transmission in gay and bisexual men is increasing, as some of this high risk group revert to unprotected sex. The risk of heterosexual transmission

in the United Kingdom has doubled during the past five years.

Each newly diagnosed HIV patient consumes about £12 500 (\$22 600; €18 200) in healthcare costs each year. The lifetime costs of care for the current 50 000 infected individuals in the United Kingdom, with a life expectancy of 20 years, is at least £12.5bn. UNAIDS recommended that to support global HIV/AIDS programmes strong political leadership, better funding, and coordination are needed. Likewise in the United Kingdom, prioritisation of sexual health with substantial investment is essential to avoid continuing deterioration in services, rising HIV transmission, and costly consequences for tax payers.

Angela J Robinson *consultant in genitourinary medicine*

Department of Genitourinary Medicine, London WC1E 6AU
(arobinson@gum.ucl.ac.uk)

Brian G Gazzard *consultant gastroenterologist*

Kobler Centre, Chelsea and Westminster Hospital, London SW10 9TU

Competing interests: None declared.

- 1 UNAIDS. 2004 report on the global AIDS epidemic, Chapter 2.
- 2 World Health Organization. *World Health Report 2003. Shaping the future*. Geneva: WHO, 2003:49.
- 3 HIV Vaccine trial results called for more basic science. 11th Conference on Retroviruses and Opportunistic Infections 2004. Moderator Paul Johnson. Session 22; page 23.
- 4 Effectiveness of COL-1492, a nonoxynol-9 vaginal gel, on HIV-1 transmission in female sex workers: a randomised controlled trial. *Lancet* 2002;360:971-7.
- 5 Shattock RJ. How close are we to an effective microbicide. 11th Conference on Retroviruses and Opportunistic Infections 2004, San Francisco, 8-11 February 2004. Abstract 9:80.
- 6 Joint United Nations Programme on HIV/AIDS. 2004 Report on the global AIDS epidemic, Chapter 4. Bringing comprehensive HIV prevention to scale. Geneva: UNAIDS, 2004. www.unaids.org/bangkok2004/report.html (accessed 24 Nov 2004).
- 7 Reid A, Munder P, Kityo Mutuluza C, Gibb D, Katabira E. A randomised trial of monitoring practice and structured treatment interruptions in the management of antiretroviral therapy in adults with HIV infection in Africa: the DART Trial. XV International AIDS Conference, Bangkok, 11-16 July 2004. Poster B4495.
- 8 Pincock S. New HIV cases in England and Wales rise by 20% in the past year. *BMJ* 2004;328:425.
- 9 Health Protection Agency. HIV/AIDS quarterly surveillance tables. Cumulative UK data to end September 2004. www.hpa.org.uk/infections/topics_az/hiv_and_sti/hiv/epidemiology/files/quarterly.pdf (accessed 24 Nov 2004).

Proposed new International Health Regulations

Agreement must be reached to protect the global village from pandemic influenza

Infectious diseases have never respected national boundaries, and ever increasing movement of people and goods means that no country or region, no matter how wealthy, can make itself invulnerable to infections emerging elsewhere.^{1,2} Equally neither can any country be confident that it will not be the source of a threat to the global community.² The International Health Regulations are legal instruments designed to provide the maximum security against the international spread of infectious disease with minimal interference with world traffic.^{3,4} Although the World Health Organization is responsible for the regulations, they are agreed collectively by its member states. Individual states may state a reservation, but great trouble is taken to come up with regulations that almost every country will sign up to. The current regulations (in place since 1969) have

been recognised to be inadequate for today's global village and the acid tests that countries may face (box).^{5,6} WHO has been revising the regulations since 1995. Progress was initially slow, but the relative irrelevance of the regulations during the outbreaks of severe acute respiratory syndrome (SARS) gave added momentum to the process, which is now approaching its intended end—approval of new regulations by the World Health Assembly in May 2005.

The current regulations require notification only of cases of three diseases—yellow fever, plague, and cholera—and contribute little when faced with established foes such as pandemic influenza, let alone emerging infections such as SARS or new multidrug

resistant organisms. Furthermore, they have no authority over the detection, prevention, and control of disease within individual member states.

Intrinsic to the current regulations is an optimistic philosophy that infections can be stopped at borders by regulation of travellers, aircraft, and cargoes. However, borders will always be permeable to infections with incubation periods longer than the duration of an air flight. When SARS occurred, what mattered was how the disease was controlled in exporting areas (Guangdong and Hong Kong) and how safely acute respiratory infections were managed in emergency departments and hospital wards in receiving countries. Exit screening played a part, but entry screening was of little value.^{7,8} In addition, entry or exit screening in major airports will need commitment of considerable human resources that will probably be better used elsewhere during an infectious disease crisis.⁷

The new regulations take a radical approach, requiring countries to apply a decision instrument (an algorithm) to any "event potentially constituting a public health emergency of international concern."⁹ Countries would then have to report events (for example, avian influenza in humans) that might represent the start of the next influenza pandemic or a covert bioterrorist attack (box). Then they would have to satisfy WHO that their response is adequate to contain the threat. Countries facing difficulties could then receive assistance through WHO—for example, by using its global outbreak alert and response network (www.who.int/csr/outbreaknetwork/en/)—a mechanism that worked well during SARS and after the recent tsunami. WHO will officially be allowed to use information from informal sources such as the media. All countries will have to develop internal surveillance and response mechanisms that can detect issues within the country that threaten the global community.⁵

These revisions are responding to shifts in the political, economic, and technological climates that have brought about new collective ways of thinking about public health governance.^{3,4} During SARS all states (apart initially from China) openly reported outbreaks and cooperated with WHO without legal obligation.⁸ Most countries have also been open about avian influenza. The new regulations will provide the legal framework in which these modern public health systems can rest.

The draft regulations were recently considered by an intergovernmental working group meeting in Geneva.^{5,9} Progress was slow and the meeting will reconvene in February. Some countries have concerns over sovereignty and loss of control, others want extensive disease lists as well as or instead of the algorithm, and yet more question who will pay for the modernisation and strengthening of surveillance and response systems. Another issue is whether the regulations will apply in large economic groupings such as the European Union or whether current European mechanisms should apply.⁵ The interface of the regulations with pre-existing treaties is a complex area.¹⁰ However, some aspects of the European Union make it more, rather than less, vulnerable to infectious diseases. Its legislative base for public health, article 152 of the Consolidated Treaty, is weak—considerably weaker than the legal basis for the protection of animal health.¹¹ Furthermore, the laudable European policy of free

internal movement of goods and people facilitates the easy spread of infections.^{6,12} European citizens should receive the same levels of protection that the new regulations will provide in other well resourced regions.

The world faces many threats from infection. Most topical is the risk of pandemic influenza, which seems to be the highest in three decades. WHO is updating its pandemic plan and proposing that should avian influenza become a pandemic strain in one country the international community should combine to help the country stamp the strain out.¹³ However, this requires that affected countries report such events immediately to the world community, which is what the new regulations are about. People with national responsibilities must argue these issues to an acceptable compromise before May. Some national sovereignty will need to be ceded in return for collective protection from infection. The status quo is not compatible with any adequate response to the threats that all countries face from emerging and re-emerging infections.^{1,9,10}

Angus Nicoll *director*

Jane Jones *consultant epidemiologist*

Communicable Disease Surveillance Centre, Health Protection Agency Centre for Infections, London NW9 5EQ
(angus.nicoll@hpa.org.uk)

Preben Aavitsland *state epidemiologist*

Department of Infectious Disease Epidemiology, Division of Infectious Disease Control, Norwegian Institute of Public Health, PO Box 4404, Nydalen, N-0403 Oslo, Norway

Johan Giesecke *state epidemiologist*

Smittskyddsinstitutet (SMI), S-171 82 Solna, Sweden

Competing interests: None declared.

The views expressed here do not necessarily represent the views of the organisations employing the authors or their national authorities.

- Smolinski MS, Hamburg MA, Lederberg J, eds. *Microbial threats to health: emergence, detection, and response*. Washington: Institute of Medicine, 2003. www.nap.edu/books/030908864X/html/ (accessed 14 Jan 2005).
- Editorial team. At least five workers infected with highly pathogenic avian influenza (HPAI) during outbreak of avian influenza in poultry farms in Holland. *Eurosurveill Wkly* 2003;7:11. www.eurosurveillance.org/ew/2003/030313.asp (accessed 14 Jan 2005).
- The international health regulations and beyond. *Lancet Infect Dis* 2004;4:606-7.
- Gostin LO. International infectious disease law—revision of the WHO's International Health Regulations. *JAMA* 2004;291:2623-7.
- World Health Organization. Review and approval of proposed amendments to the International Health Regulations. http://www.who.int/gb/ghs/pdf/IHR_IGWG2_2-en.pdf (accessed 28 Jan 2005).
- Van Loock F, Gill ON, Wallyn S, Nicoll A, Desenclos JC, Leinikki P. Roles and functions of a European Union Public Health Centre for Communicable Diseases and other threats to health. *Eurosurveill* 2002;7:78-84. www.eurosurveillance.org/em/v07n05/0705-225.asp (accessed 14 Jan 2005).
- St John RK, King A, deJong D, Bodie-Collins M, Squires SG, Tam TWS. Border screening for severe acute respiratory syndrome (SARS). *Emerg Infect Dis* (in press).
- Anderson RM, Fraser C, Ghani AC, Donnelly CA, Riley S, Ferguson NM, et al. Epidemiology, transmission dynamics and control of SARS: the 2002-2003 epidemic. *Philos Trans R Soc Lond B Biol Sci* 2004;359:1091-105.
- World Health Organization. Review and approval of proposed amendments to the International Health Regulations: explanatory notes. www.who.int/gb/ghs/pdf/A_IHR_IGWG_4-en.pdf (accessed 14 Jan 2005).
- World Health Organization. Review and approval of proposed amendments to the International Health Regulations: relations with other international instruments. www.who.int/gb/ghs/pdf/A_IHR_IGWG_ID1-en.pdf (accessed 14 Jan 2005).
- Consolidated version of the treaty establishing the European Community. Article 152. http://europa.eu.int/eur-lex/en/treaties/dat/C_2002325EN.003301.html (accessed 14 Jan 2005).
- van Pelt W, Mevius D, HG Stoelhorst H, Kovats S, van de Giessen A, Wannet W, et al. Increase of salmonella infections in 2003 in the Netherlands: hot summer or side effect of the avian influenza outbreak. *Eurosurveill* 2004;9:3-4. www.eurosurveillance.org/em/v09n07/0907-222.asp (accessed 13 Jan 2005).
- Monto AS. The threat of an avian influenza pandemic. *N Engl J Med* 2005;352:323-5.