Once inside, and with correct documentation, they can be moved around without restriction. For these reasons other countries have banned the import of animal products from the UK.

Spread of the virus is facilitated by the development of long distance animal trading. Dense livestock populations may also enhance local spread in the vicinity of an outbreak. Awareness of the disease among livestock owners is crucial, as are the UK's excellent diagnostic facilities. Spread can take place on the wind and mechanically by the movement of animals, people, and vehicles that have been contaminated with the virus. Thus the whole British population has a role in combating the disease. Restriction of non-essential movement both into and out of affected farms and more widely in the countryside is important. This is requiring close collaboration between veterinary, health, and local authorities. If these measures are not successful, however, the major review of safeguards announced by the agriculture minister may lead to major changes in animal husbandry in the UK.[11]

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HIV and infertility: time to treat

There's no justification for denying treatment to parents who are HIV positive

No established guidelines exist for defining access to fertility care for individuals infected with HIV. Although many in vitro fertilisation units in the United Kingdom screen patients for HIV, only a handful are prepared to treat couples if one or other partner tests positive. A premise of offering assisted conception treatment is a consideration for the welfare of any child born or affected as a result of treatment. In the case of HIV the primary concern is over the life expectancy of the infected parent and the risk of viral transmission to either the uninfected partner or offspring.[1 2] The ethical dilemmas these issues raise have, until now, provided sufficient grounds for most units offering assisted conception to close their doors to patients infected with HIV who ask for help or who test positive in their preliminary investigation.[3]

Combination antiretroviral therapy has produced radical improvements in life expectancy and quality of life for both children and adults infected with HIV in developed countries. Current estimates suggest that a disease previously associated with certain death is compatible with a life expectancy of at least 20 years from time of diagnosis. Is it therefore justifiable to deny HIV positive adults fertility treatment on the grounds that children born as a result are unlikely to see childhood through before one or both parents die? There are many similarities between HIV and other once fatal diseases afflicting women in their reproductive years, such as diabetes, cystic fibrosis, congenital heart disease, and breast cancer. Cardiac disease and cystic fibrosis, in particular, may worsen considerably during pregnancy, with effects on both maternal and fetal health. Yet fertility treatment is rarely refused in these cases, despite the risks of pregnancy to mother and fetus.

As regards viral transmission to the offspring, without intervention a mother infected with HIV has a 13%-30% risk of infecting her baby.[4] Judicious use of combination antiretroviral therapy during pregnancy and labour, delivery by caesarean section, and avoidance of breast feeding are proved measures which have reduced the risk of vertical transmission to less than 2%.[5 6] Compare this with an HIV negative mother, who has a 2.5% risk of giving birth to a baby with a significant congenital malformation, a risk increasing fourfold if she has insulin dependent diabetes and tenfold if she has congenital heart disease. In vitro fertilisation clinics treat many such women and many women over 40, whose age related risk of giving birth to a child with Down's syndrome is 1% and increases steeply with age. Potential teratogenic effects of antiretroviral drugs taken during pregnancy remain an issue. Serious adverse effects appear rare, although mitochondrial cytopathy leading to neonatal death has been documented.[7]

Reproductive assistance to HIV discordant couples can make a significant impact in preventing viral transmission. The female partner of an HIV positive man runs a 0.1%-0.2% risk of acquiring HIV in an act of unprotected intercourse,[8] and attempting to conceive naturally carries a serious risk to the uninfected woman and her child.[9] In men infected with HIV, virus is present in semen as free virus in the seminal plasma and as cell associated virus in the non-sperm cells. Although the issue is controversial, there is little evidence to support

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HIV being able to attach to or infect spermatozoa. A highly significant reduction in the risk of viral transmission is achieved if spermatozoa are first washed free of seminal plasma and non-sperm cells before insemination into the woman at the time of ovulation. This technique of "sperm washing," pioneered in Milan,[10] is now practised in several centres in Europe, including the Chelsea and Westminster unit in the United Kingdom.[11] As a risk reduction option, results are convincing. Three hundred healthy children have now been born after more than 3000 cycles of sperm washing and intrauterine insemination treatment or in vitro fertilisation, with no reported seroconversions in either partner or children.[10–12] Prevention of viral transmission from an infected woman to an uninfected man is less sophisticated and relies on timed self insemination using quills. Couples who fail to conceive in this way are likely to revert to unprotected intercourse if fertility advice and treatment are not available.

HIV is a changed disease. Life expectancy has increased dramatically and effective treatments are available to reduce the risk of viral transmission from man to woman and from mother to child. We believe that couples in whom one or both partners are infected should have access to the same fertility advice and treatment as non-infected individuals to allow them to conceive with the minimum of risk to their partners or children. We further recommend that all infertile couples should be tested for HIV as part of their investigation, not for the purpose of excluding HIV positive patients from treatment but to offer them preconceptional counselling and risk reducing fertility treatments and antenatal care. In terms of controlling the epidemic, the cost of failing to recognise the needs of these patients will be a high price to pay in both the short and long term.

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Practice based primary care research networks

They work and are ready for full development and support

Primary care p 588

Practice based research networks are research laboratories as essential to advancing the scientific understanding of medical care as bench laboratories are to advancing knowledge in the basic sciences. The medical establishment has been slow to realise patients' needs for a robust research enterprise in family practice and primary care. But a paper in this week's *BMJ* adds to evidence that research networks in primary care have come of age and deserve sustained support (p 588).[1]

For much of the past century the prevailing view was that the problems faced in family practice could be resolved by research carried out by others in other settings. The failure to implement research findings in daily practice raised some researchable questions about knowledge transfer, but it did not engender a spirit of excitement about the research needs and opportunities intrinsic to family practice. The notion that there were important questions, fundamental to the origins of health and disease, that could be investigated best or only in family practice proved elusive.

Countries rich enough to afford medical research have devoted much of their resources to establishing the laboratories, scientists, and methods necessary to advance genetic and molecular knowledge—as if this would prove sufficient to relieve most human suffering and provide an adequate scientific basis for practice and policy making. This approach is exemplified dramatically in the United States where annual investment in the National Institutes of Health, of more than $20bn (£13bn), contrasts with expenditure of $0.27bn by the only federal agency charged with primary care research, the Agency for Healthcare Research and Quality. No one would rightly argue that there has not been a fantastic return on these billions that have been invested outside primary care, and the further harvest of cures and ministrations that will continue to emerge from it will benefit many. Yet the recent ranking by the World Health Organization of the US health system at 72nd in the world in terms of disability adjusted life expectancy[2] shows that there are other factors at play that determine the performance of a healthcare system and the health of a nation.

There is reason to believe that among these other factors is the solid foundation of primary care.[3] There is also reason to believe that primary care is amenable to discovery and improvement through the methods of science, just as is the rest of medicine.[4]

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