recommended treatment with high doses of zidovudine,^{15 16} a practice that must now be questioned given that in adults low doses may be adequate. Multicentre trials are urgently needed to evaluate the safety and efficacy of zidovudine in children with early HIV disease.

On 31 December 1990, 32 countries reported a total of 2120 cases of AIDS in children under 13 years of age, half of whom were Romanian children with iatrogenically acquired disease.⁷ The outbreaks of nosocomial HIV infection in Romania and the Soviet Union highlight the continued need for screening of blood donors and for adequate sterilisation of medical equipment. Much has been learnt about vertically transmitted HIV disease, and large cohorts of children with horizontal transmission of HIV now need studying.

So far little attention has been paid to the problem of HIV infection and adolescents. A more complete understanding of the current epidemiology and natural course of HIV disease in this population is urgently required, followed by attempts to ascertain how best to care for infected adolescents. Only then can services be planned for those children now infected who may reach adolescence.

Although the longer term outlook remains unknown, HIV infection appears compatible with prolonged survival, with or without medical intervention. With this will come clinical, psychological, and social problems—for example, are staff and parents prepared to integrate children and adolescents infected with HIV into mainstream schools? And what are the financial implications of caring for “AIDS orphans”—young people who are not themselves infected with HIV but have lost one or both parents from AIDS? The World Health Organisation estimates that in the 1990s more than a million

uninfected children will be orphaned throughout the world as their infected parents die of AIDS.¹⁷

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Avoidable blindness

The numbers affected are still increasing

About 30 million people in the world are blind (20 million more than in 1976), and a similar number are visually handicapped. Four fifths of this visual loss is avoidable. Last year's general assembly of the International Agency for the Prevention of Blindness produced several recommendations for action. Better use should be made of existing scarce resources. One in four of the world's ophthalmologists practise in the United States. In Africa there is an average of one ophthalmologist for every million people, but whereas 85% of Africa's people live in rural areas most of the ophthalmologists work in the large cities.

The needs of the developing world demand local solutions: techniques developed in Western hospitals—for example, yttrium, aluminium, and garnet lasers and intraocular lenses—may be irrelevant to eye work in rural areas of developing countries. In the Third World cataract tops the list of causes of bilateral blindness. Intracapsular cataract extraction and a pair of standard +10.00 glasses would cure half of the world's blind. One third of all patients attending eye clinics require a pair of spectacles—by setting up edging workshops to fit standard spherical lenses into cheap frames much needed spectacles could be provided for less than \$5. The world's poor are not well served by expensive imported eye medications, often unnecessary and harmful mixtures (steroids and antibiotics), promoted by seductive, glossy advertising. Eye drops manufactured in rural hospital pharmacies and put

into recyclable bottles can cater for almost all common eye diseases at a fraction of the price. (The World Health Organisation recently published a paper on the local production of eye drops.)

How should the number of ophthalmologists serving the Third World be increased, and is a Western style training the best preparation for ophthalmologists working in under-equipped rural locations? In Francophone Africa (22 countries with a population of 141 million) four centres providing postgraduate training in ophthalmology (Mali, Senegal, the Ivory Coast, and Zaire) produce only 10 specialists a year, which is hardly enough. An “average” ophthalmologist operates on 300 cataracts each year; half a million new cases of cataract develop annually in Africa, and a backlog exists of three million already blind. Perhaps other staff could be more easily trained—for example, general surgeons and dexterous ophthalmic nursing assistants have been successfully taught cataract surgery elsewhere. Realistic goals for manpower might be one ophthalmologist for every half million people and one cataract surgeon for every 250 000.

Experiences in several countries, most notably in Kenya, have shown the advantages of establishing a national committee for the prevention of blindness. Such a committee, under the auspices of the ministry of health, should include representation from all groups interested in eye care. A national survey into the incidence and prevalence of blindness

is a prerequisite for setting priorities. Without such data it may be impossible to persuade governments, whose attention may be diverted by other demands, to direct limited resources to blindness. In some poor countries trained ophthalmologists cannot be integrated into the national health service because of lack of money—both India and Senegal have ophthalmologists working as taxi drivers and waiters.

Perhaps the greatest advance in tropical ophthalmology was the introduction of ivermectin (donated by Merck Sharpe and Dohme) to treat onchocerciasis. One dose of ivermectin a year reduces transmission by three quarters. As it kills only microfilaria, however, it must be taken for at least 10-15 years, which is the lifespan of the adult female in the human body. Research is currently focusing on the logistics of the massive distribution programme required.

The tragedy of childhood blindness may be easily overlooked. Vitamin A deficiency accounts for 70% of cases, and as this is related to concomitant measles and malnutrition more than half of those affected die within a year. Distributing high dose vitamin A capsules (donated by Hoffmann-La Roche, Switzerland, under its task force "Sight and Life") is part of the solution. (So is improved sanitation, female literacy, vaccination against childhood diseases, improved diet, education, and eliminating poverty.)

Another disease linked to ignorance and poverty is trachoma, a leading cause of blindness in several African countries. The single most effective means of control is regular face washing. Providing clean water to all communities and use of tetracycline eye ointment by those who are infected might eradicate this scourge.

With national wealth dwindling in developing countries the extensive skill and experience of international agencies working to prevent blindness makes them valuable allies. Among the larger agencies, Christoffel Blindenmission works through mission hospitals, the Royal Commonwealth Society for the Blind (Sight Savers) prefers to work through host governments, Helen Keller International has particular skills in technical cooperation and planning the distribution of vitamin A, and the International Eye Foundation emphasises primary eye care. Each year they have millions of dollars to spend.

Surprisingly, given the burden of blindness and visual handicap, many existing facilities and staff are underused. Several factors account for this. Blindness tends to affect older people who either consider it a normal part of being old or cannot persuade their children to use their limited money to travel long distances for treatment. They may be left in the villages, where their blindness reduces their life expectancy. Many do not know that inexpensive surgery is available, something that health educators must remedy.

Several challenges therefore face the ophthalmological community. National governments need to be made aware of the burden of blindness in their countries. Access to eye care should be made more widely available, especially to rural communities. Programmes of primary eye care, closely related to vaccination, health education programmes, and improved availability of water and sanitation, should be strengthened. Better use of existing facilities and trained staff and closer cooperation among non-governmental organisations and government health services are also necessary.

Unless things change the number of people who are blind will double by the year 2025. As Primo Levi wrote, "Once we know how to reduce torment, and do not do it, we become the tormentors."

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International Eye Foundation, 7801 Norfolk Avenue, Bethesda, Maryland
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Operation Eyesight International, PO Box 123, Station M, Calgary,
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Royal Commonwealth Society for the Blind (Sight Savers), Commonwealth
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Thyroid dysfunction and affective illness

Check the hypothalamic-pituitary-thyroid axis in patients resistant to treatment

Mental disorder resulting from gross thyroid dysfunction has long been recognised. Delirium in hyperthyroidism and coma in myxoedema mark out the two extremes with less severe thyroid dysfunction being associated with proportionately less severe symptoms and signs.^{1,2} With recent refinements of endocrinological and biochemical techniques has come the concept of subclinical thyroid dysfunction (exaggerated release of thyroid stimulating hormone in response to thyroid releasing hormone in the presence of normal or raised concentrations of circulating thyroid stimulating hormone and normal concentrations of circulating thyroxine and triiodothyronine³). This raises two linked questions for psychiatry. Does subclinical dysfunction of the thyroid play any part in affective illnesses, and if so do thyroid hormones have a place in their treatment?

Overt hypothyroidism is much more common in patients suffering from bipolar (manic-depressive) affective illness

treated with lithium carbonate than in unselected psychiatric inpatients.^{4,9} Even higher rates of overt hypothyroidism have been reported in a subgroup of manic-depressive patients who have the "rapid cycling" form of the illness.¹⁰⁻¹² (These patients have at least four episodes of illness a year, which is refractory to treatment.¹¹⁻¹⁶ Antidepressants may make them worse.)

Subclinical forms of hypothyroidism are also common in bipolar affective illness^{4,7-11}; more so in those with the rapid cycling form of the disease.^{11,12} Some of these findings may be explained by most of these patients being treated with lithium, which has antithyroid effects.^{4,8,13} The fact that overt hypothyroidism was found to be more common in those with the rapid cycling disease than in the unselected patients with bipolar disease,¹³ however, is unlikely to be due solely to lithium as lithium treatment was a common feature of both groups. Hypothyroidism and rapid cycling are both more