

frequency of adequate stool samples is 80%, then 80% of all poliomyelitis cases must be confirmed. India had certification-quality surveillance for the past 8 years. The prevalence of non-poliomyelitis AFP, which had been 2 people in 100 000 since 1998, increased in 2004 to about 3 in 100 000 and approximately tripled in 2006 to 6.95 in 100 000.^{2,4}

The number of confirmed poliomyelitis cases has declined since 1998, except during outbreaks in 2002 and 2006. In 2005, we hoped that we had finally conquered the virus. However, the virus made a comeback. The worst affected area was Uttar Pradesh, which consistently had the maximum number of poliomyelitis cases. Why did poliomyelitis eradication fail? A key issue is hidden in AFP data. Although India achieved the recommended surveillance indicators, there was a serious anomaly: the number of compatible poliomyelitis cases had always been more than 20% of total cases.⁴ The lowest frequency (30%) of compatible poliomyelitis cases was achieved in 2002, the year with the biggest outbreak; and the proportion of compatible cases had been increasing as the number of confirmed poliomyelitis cases decreased.⁴

The 2005 data in the worst affected states of the 2006 outbreak—Uttar Pradesh and Bihar—highlight this anomaly (table).² The frequency of non-poliomyelitis AFP is high in Uttar Pradesh and Bihar, 13 times more than expected.² Although the frequency of non-polio AFP in Uttar Pradesh was very high and the frequency of adequate stool samples was more than 80%, the proportion of compatible cases was more than 80%. Because the number of compatible poliomyelitis cases should be less than 20%, India has missed many cases over the past several years, which has adversely affected efforts to eradicate the virus. This situation seems to be an inadvertent but tragic consequence of reliance on only two indicators to assess the quality of AFP surveillance. By contrast, surveillance data for Indonesia

| | Uttar Pradesh | Bihar | National |
|--|---------------|-----------|-----------|
| Non-poliomyelitis AFP (in 100 000) | 13.85 | 14.02 | 6.43 |
| Proportion with adequate stool | 82% | 81% | 81% |
| Total poliomyelitis cases | 209 | 136 | 463 |
| Confirmed poliomyelitis cases | 29 | 30 | 66 |
| Number of compatible poliomyelitis cases (% total poliomyelitis) | 180 (86%) | 106 (78%) | 397 (86%) |

Table: AFP surveillance indicators and poliomyelitis cases in India and for Uttar Pradesh and Bihar,² 2005

in 2005 show that the proportion of compatible poliomyelitis cases from the total was about 20% (75 compatible cases and 349 confirmed cases).

The aim of AFP surveillance is to detect circulating poliovirus through identification of paralytic poliomyelitis cases. Using only two essential criteria for maintaining the quality of AFP surveillance has failed in India. A third factor should be added to the criteria for quality surveillance—the proportion of compatible poliomyelitis cases among the total poliomyelitis cases should not exceed 20%. This new criterion would check the reported frequency of adequate stool samples. However, the 20% threshold should be reduced proportionately if the prevalence of non-poliomyelitis AFP is much higher than 1 in 100 000 to avoid a false sense of increased surveillance quality.

Paul T Francis

Amrita School of Medicine, Cochin, Kerala 682026, India
paultfrancis@gmail.com

I declare that I have no conflict of interest.

- 1 Anon. Field guide: surveillance of acute flaccid paralysis, 3rd edn. New Delhi: Ministry of Health and Family Welfare, Government of India, 2005.
- 2 National Polio Surveillance Project. <http://www.npsindia.org> (accessed Feb 8, 2007).
- 3 Kohler KA, Hlady WG, Banerjee K, et al. Compatible poliomyelitis cases in India during 2000. *Bull World Health Organ* 2003; **81**: 2–9.
- 4 World Health Organization, Regional Office for South-East Asia. Immunization and vaccine development, VPD surveillance bulletins. www.searo.who.int/EN/Section1226/showfiles.asp (accessed Feb 8, 2007).

Limits of substance-use interventions in developing countries

As part of the *Lancet* Series on adolescent health, John Toumbourou and colleagues¹ review the efficacy and effectiveness of approaches and strategies designed to prevent substance use and reduce substance-related harm in young people. The authors address an

important public-health and welfare issue, one that has attracted much attention from professionals and policymakers in industrialised countries for decades, and is increasingly being recognised as a problem in low-income and middle-income countries.

Published Online
March 27, 2007
DOI:10.1016/S0140-6736(07)60373-0
See [Series](#) page 1391

The printed journal includes an image merely for illustration

Panos Pictures

Homeless boy sniffing glue in Thailand

Toumbourou and colleagues provide a good summary of the risks associated with harmful use of alcohol and drugs, drawing largely from work done within the WHO Global Burden of Disease project, to which some of the coauthors contributed. Probably the most relevant finding of this project was one reported in the World Health Report of 2002, that addictive behaviours are among the top ten contributors to global disease burden measured in disability-adjusted life-years.² In fact, alcohol was shown to be the leading risk factor and tobacco came third in developing countries with rising economic prosperity. This work and growing evidence have shown that what was seen by many in developing countries as a disease of industrialised nations is now a worldwide trend. Not only are increasing numbers of young people in these mostly poor countries resorting to licit and illicit drugs for recreation and excitement, but problems associated with use are also on the rise.

Yet, as Toumbourou and colleagues recognise, it is a challenge trying to make sense out of what is going on in all but a few countries. Indeed, it has become customary to bemoan the underdeveloped state of knowledge in almost every field in these countries,³ a situation that has made it difficult, and certainly unwise, to be too inclusive in our generalisations about global problems and how to address them. Such generalisations would be particularly suspect when dealing with a problem in which cultural underpinnings and the political climate have substantial roles.

That is the basic difficulty facing Toumbourou and colleagues—the current state of knowledge about the

extent of adolescent substance use, and what works in reducing problems, is restricted to knowledge from a few high-income countries.^{4,5} And so the authors work with what they have and rely on studies and trials done in just a few countries and published in a small band of English language journals. Even their introductory section on the epidemiology of drug use relies on the European school survey, the US Monitoring the Future project, and a study in Australia.

The inherent limitation of a review that does not include the experiences of the great majority of adolescents in the world today is magnified when the topic is the efficacy or effectiveness of interventions. Though one can argue that knowledge about substance use in young people in some developing countries is growing, the same cannot be said for studies (controlled or not) that test the efficacy of interventions. Such investigations are indeed scarce, but another problem is access to existing work if the papers are published in national or regional journals not included in indexing services. So, although more representative studies are obviously needed from the world outside the USA, Canada, Europe, and Australia, we also have to find ways of going beyond the narrow confines of scientific publications as determined by these sources to discover what else might be available out there. The internet means this move is easier to make today than it would have been even a decade ago.

Finally, although developing countries have something to learn from the experiences of industrialised countries, success in preventing substance use and reducing related problems in these countries will come not in the application of any one strategy or group of strategies but by addressing the issue within the broad context of development planning.⁶ These, after all, are countries faced with the reality of poverty; where drug policy is often limited to law enforcement, prevention is sporadic and left to the goodwill of individuals and non-profit groups,⁷ resources are limited, and drugs and alcohol problems compete with what policymakers might regard as more immediate problems of survival.

Isidore S Obot

Department of Behavioral Health Sciences, School of Public Health and Policy, Morgan State University, Baltimore, MD 21251, USA
isobot@moac.morgan.edu

I declare that I have no conflict of interest.

- 1 Toubourou JW, Stockwell T, Neighbors C, Marlatt G A, Sturge J, Rehm J. Interventions to reduce harm associated with adolescent substance use. *Lancet* 2007; published online March 20. DOI:10.1016/S0140-6736(07)60369-9.
- 2 WHO. The world health report 2002: reducing risks, promoting healthy life. Geneva: World Health Organization, 2002.
- 3 Obot IS. Bridging the gap: the challenges and promise of addiction journal publishing in Africa. *Addiction* 2005; **100**: 1210–11.
- 4 Babor T, Caetano R, Casswell S, et al. Alcohol: no ordinary commodity. Oxford: Oxford University Press, 2003.
- 5 Parry CDH, Dewing S. A public health approach to addressing alcohol-related crime in South Africa. *Afr J Drug Alcohol Stud* 2006; **5**: 41–56.
- 6 Obot IS, Saxena S. Urbanization, young people and substance use: research priorities and public health issues. In: Obot IS, Saxena S, eds. Substance use among young people in urban environments. Geneva: World Health Organization, 2005: 203–09.
- 7 Obot IS. Responding to drug problems in Nigeria: the role of civil society organizations. *Subst Use Misuse* 2004; **39**: 1289–301.

Morphine kills the pain, not the patient

Just over 20 years ago, John Morgan,¹ an American pharmacologist, coined the term opiophobia to describe the analgesic-prescribing habits of physicians he had studied. Then, in 1987, WHO published its analgesic ladder,² which identified morphine as the most effective analgesic for cancer pain and effectively made a nation's per-capita consumption of morphine a proxy for the extent to which its citizens have access to pain relief and palliative care. Global morphine consumption has risen from 3.3 tonnes in 1985, before WHO's intervention, to 28.7 tonnes in 2004.³

However, underneath this change in prescribing practice, professional and public anxieties about the effects of morphine continue to hinder adequate access to analgesia. The best-known fact about morphine among the public and physicians is that it can be addictive (in fact the risk of iatrogenic addiction is under 0.01%⁴). For physicians, the second best-known fact is that morphine can precipitate respiratory depression. As a consequence, if offered enough confidentiality, clinicians can readily be found who will confess to having shortened the life of their patients to achieve pain control.⁵ Harold Shipman's use of morphine as his murder instrument has further increased disquiet among UK medical professionals and laity. Therefore, that the media take it as an accepted fact that everyday medical practice for pain control entails the use of increasing morphine doses until the patient dies as a result is unsurprising.⁶ This is a taint to which physicians specialising in pain management and, particularly, palliative care have been obliged to become accustomed.

The recent study from the US National Hospice Outcomes Project, which compared opioid use and survival at the end of life, is thus welcome,⁷ as it represents the largest and most sophisticated examination of the issue to date. In 725 hospice inpatients with end-stage cancer, lung disease, or heart

disease who were followed up until death, length of stay was positively correlated with the maximum daily opioid dose received, even when that dose exceeded 1.8 g a day—around 15 times the average for such patients in the UK and Japan.^{8,9} Neither absolute nor percentage change in dose was linked with survival. In fact, multivariate analysis found no combination of factors capable of explaining more than 8% of the variation in survival time, which suggests an overwhelming influence of the individual's disease severity.

A systematic review of previous (albeit smaller) studies, from palliative-care services in various countries, found no significant difference in survival according to either absolute morphine dose or change in morphine dose.¹⁰ These results are consistent with widespread clinical experience with morphine for analgesia. Only the opioid-naïve patient is at significant risk of respiratory depression.¹¹ A patient with moderate-to-severe chronic pain, whether malignant in origin or not, who is given the incremental dose-titration practised in pain and

The printed journal
includes an image merely
for illustration

Opium poppy