

Overland heroin trafficking routes and HIV-1 spread in south and south-east Asia

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Objectives: Burma produces approximately 60% of the world's heroin, Laos is the third leading producer. Recent outbreaks of injecting drug use and HIV-1 in Burma, India, China, and Vietnam have been associated with Burmese and Laotian overland heroin trafficking routes. We analyzed findings from narcotics investigations, molecular epidemiology studies of HIV-1, and epidemiologic and behavioral studies of injecting drug use, to evaluate the roles that the heroin export routes play in the spread of drug use and HIV-1 in south and south-east Asia.

Methods: We reviewed the medical and narcotics literature, the molecular epidemiology of HIV, and did key informant interviews in India, China, and Burma with injecting drug users, drug traffickers, public health staff, and narcotics control personnel.

Results: Four recent outbreaks of HIV-1 among injecting drug users appear linked to trafficking routes. Route 1: From Burma's eastern border to China's Yunnan Province, with initial spread of HIV-1 subtype B, and later C. Route 2: Eastern Burma to Yunnan, going north and west, to Xinjiang Province, with B, C, and a B/C recombinant subtype. Route 3: Burma and Laos, through northern Vietnam, to China's Guangxi Province, subtype E. Route 4: Western Burma, across the Burma-India border to Manipur, predominant subtype C, and B and E.

Conclusions: Overland heroin export routes have been associated with dual epidemics of injecting drug use and HIV infection in three Asian countries and along four routes. Molecular epidemiology is useful for mapping heroin routes. Single country narcotics and HIV programs are unlikely to succeed unless the regional narcotic-based economy is addressed.

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Introduction

The relationship between heroin availability, needle-sharing behaviors, and spread of HIV-1 among injecting drug users (IDU) and their sex partners in Asia has been well-described [1–4]. IDU have played important epidemiologic roles in the early spread of HIV in several populations, in both developed and developing

countries [4–6]. In south and south-east Asia heroin use and needle sharing behaviors have been associated with outbreaks of HIV/AIDS in Thailand, India, Malaysia, Burma (Myanmar), China, and Vietnam [1,2,4,6–10]. Sexual spread from IDU to their sex partners and children has led to further spread in some of these populations, although the extent to which this route of spread has led to wider heterosexual epidemics

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In accordance with United Nations General Assembly resolutions, we use the name Burma. Burma's military leaders have adopted the name Myanmar since their seizure of state power in 1988.

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of HIV-1 has varied in some of these countries and is debated in others [1,4,7,10]. In Malaysia the large majority of reported HIV infections have been among IDU, who comprised 77% of the 14418 cases of HIV infection reported by 1995 [7]. In China, IDUs in Yunnan Province were the first group affected by HIV-1 infection, accounting for 80% of reported HIV infections in 1994 [11]. However, HIV-1 infection in drug users outside Yunnan accounted for more than 50% of new HIV-1 infections in China from 1995 to 1997, suggesting rapid spread beyond the initial area of introduction [12]. The first significant outbreak of HIV-1 in Thailand was among Bangkok IDU in 1988–1989 [13]. In Vietnam IDU accounted for an estimated 70% of all HIV infections in 1996 [10]. India has documented HIV-1 outbreaks among many risk groups, however, the north-east state of Manipur has had a predominant IDU outbreak, which began in 1989–1990, and accounted for approximately 70% of all cases by 1998 [14,15]. HIV prevalence figures in most surveillance reports of IDU in Asia have been measured in selected or highly selected samples, and so must be interpreted with caution. Furthermore, although IDU have often been targeted for aggressive screening, their sex partners have generally been less so, making estimates of spread outside injecting networks problematic.

Heroin use and the risks of HIV infection have been well described in Asia, but the role of overland heroin trafficking routes in HIV spread has not been widely appreciated, for several reasons. Although the criminologic and narcotics control literatures are rich in data on heroin movements across and out of Asia, this information is not widely disseminated to public health professionals. Conversely, the tools of molecular epidemiology, which can assist in the mapping of HIV spread, are unfamiliar to the drug control community. Since illicit cultivation of the opium poppy, *Papaver somnifera*, heroin refining, and heroin trafficking are all illegal activities in the region, they are by nature clandestine, difficult to measure, and potentially dangerous to investigate. This has made a coherent understanding of the role of heroin trafficking in HIV spread across Asia less-studied than the available data would suggest is warranted. This is particularly true since one country, Burma, accounts for a significant percentage of world poppy cultivation, heroin production, and export [16]. Laotian heroin exports, the third largest in the world, have also been implicated in HIV spread, and have been little studied. However, the relationship of heroin trafficking routes to HIV spread has been reported in other regions, suggesting that the phenomenon is not unique to south-east Asia [17].

Numerous studies of HIV outbreaks among injectors in south and south-east Asia have been reported, and the molecular epidemiology of some of these outbreaks

described [3,4,6,9,18–21]. Although investigations of these epidemics have been invaluable in understanding HIV spread in individual countries, their relationship to trafficking routes requires the investigation of cross-border zones and regional networks. We investigated the Burmese and Laotian cross-border heroin trafficking zones through meetings with local and ethnic leaders, key informant interviews with drug users and traffickers, and an analysis of HIV-subtype distribution and spread across identified trafficking routes.

Methods

HIV-1 subtype analyses

HIV-1 subtype information from Burma, India, Vietnam, and regions in China other than Guangxi is from published reports. Subjects from Guangxi Province, Pingxiang and Baise cities, were recruited into an ongoing study among IDU by our group [9]. Briefly, subjects were from heroin detoxification centers, where drug detoxification for a period of 3 months is mandatory for arrested IDU. IDU also present voluntarily and can also be committed for detoxification by family members. Between July 1996 and July 1997, 79 heroin users in the detoxification center in Baise City and 148 heroin users in the heroin detoxification center in Pingxiang city were recruited into this study by mobile teams from the Guangxi Ministry of Health (MOH) Epidemic Control Station. After group pre-test counseling, informed consent was obtained from each study participant, and an interview was conducted and blood was drawn for HIV testing. The questionnaire for the interview included information about demographic characteristics, history and behaviors of heroin use and sexual behaviors. Study data were kept confidential, and HIV results were not reported to the detoxification center staff. Subjects received individual post-test counseling and risk reduction education from MOH physicians approximately 2 weeks after HIV testing.

Serum samples were tested for HIV antibody by enzyme-linked immunosorbent assay (ELISA; Organon Teknika, Boxtel, The Netherlands). All ELISA-positive samples were then analyzed with an HIV-1/2 Western blot immune assay manufactured by Gene Lab (Singapore). The samples were considered positive when they reacted positively in both ELISA and the Western blot test. HIV-1 subtype analysis was carried out using polymerase chain reaction and sequence analysis as has been previously described. [9]

Key informant interviews

We conducted a series of confidential, anonymous key informant interviews with local and ethnic leaders, IDU, local heroin traffickers, non-governmental orga-

nization staff (NGO), and drug treatment counselors in 1997 and 1998 in India, Burma, China, and Thailand. Informants were interviewed regarding local heroin availability, trafficking routes into and out of their area, and drug use and injection patterns and practices. Key informants were recruited through local NGOs and drug treatment facilities in India, through treatment facilities in China, and through non-governmental political and human rights organizations in Thailand and Burma.

Narcotics control literature review

Data sources for overland heroin trafficking routes in Asia included the 1998 International Narcotics Control Strategy Report (INCSR) of the US State Department, presentations by staff of the US Central Intelligence Agency and the US Drug Enforcement Agency at a State Department sponsored conference, 'Towards a Twenty-First Century Burma' held in May, 1998. Landsat data on opium poppy cultivation were provided to the authors by the State Department Office for Crime, Narcotics and Terrorism. Non-US intelligence sources also shared narcotics information and analysis.

Results

Burmese and Laotian heroin production

The 'Golden Triangle' region of south-east Asia, geographically composed of northern Thailand, northern and eastern Burma, and western Laos, has been a major center of opium poppy cultivation since at least the 19th century [22]. In the last 15–20 years, however, Thailand has drastically reduced poppy cultivation through eradication efforts, crop substitution programs, and rural development efforts [16]. Thailand in 1998 is no longer a significant opium or heroin producer [16]. In contrast, since Burma's suppressed popular uprising in 1988, and the seizure of state power by a military council called SLORC (now called the State Peace and Development Council, SPDC), Burmese poppy cultivation appears to have sharply increased, and now accounts for 90% of all south-east Asian opium production [16,23]. The US Drug Enforcement Agency (DEA) measures opium and other narcotic crops using Landsat, a satellite imaging technology developed to measure agricultural acreage and crop yields. Landsat imaging estimates of Burma's opium crop indicate a doubling of area under poppy cultivation since 1988, to current levels of 155000–160000 hectares [16,24] (Fig. 1). Based on an average yield of 15 kg of opium per hectare, the 1997 crop was estimated at 2365 metric tons of raw opium, slightly less than the peak crop of 2560 metric tons in 1996 [16]. The next largest world producer of opium is Afghanistan, whose 1995 (the last year estimates were made) crop was estimated

at 1250 metric tons [24]. Laos, the third of the three significant producers, produced an estimated 200 metric tons in 1996 [24] (Fig. 1).

Burmese poppy cultivation has traditionally been limited to several remote mountainous regions in the country's north and east; the major areas include the Kokang hills of Shan State, the Eastern Shan hills, the Wa hill area, and the Kachin state (Fig. 1). These areas are all border zones, with extensive land borders with northern Thailand, Laos, and China's Yunnan Province. Opium grown in these extensively cultivated areas is refined into heroin in a network of small concealed (and relatively mobile) factories scattered throughout the hills [23]. The purest heroin ('Number 4') is a white crystalline powder of high grade and is the major export form of the drug. 'Number 4' is manufactured principally to be injected, although it can be smoked as well.

Since 1987 Burma has been classed by the United Nations as a 'least developed nation', and remains one of the world's poorest countries. Per capita income was US\$220 per year in 1995 [25]. Heroin exports are a significant mainstay of the Burmese economy, although economic data on the narcotics industry are sparse.

Domestic heroin use has been an increasing problem in Burma since 1988 [26]. A 1995 joint United Nations Drug Control Program (UNDCP) and National AIDS Control Program study of domestic heroin use rates found that in 36 townships studied nation-wide, heroin use rates ranged from 1.2 to 25% of all adults [26]. IDU ranged from 12 to 77 years of age, and between 1 and 12% were women. Predictably, Burma has one of Asia's most severe epidemics of HIV infection [27]. Although data are limited and known to be unreliable, an estimate of 400000–500000 infections as of 1998 is probably conservative [28]. A recent global epidemiology working group reported Burma's epidemic to be one of 'high and rising prevalence, and high and rising incidence', the committees' worst-case scenario for an epidemic [28]. HIV infection rates among addicts have been reported to be very high: the 1995 HIV prevalence rates among IDU for specific cities included 74% in Rangoon, 84% in Mandalay, and 91% in Myitkyina, the capital of Kachin State on the Burma–China border [8] (Table 1).

The molecular epidemiology of HIV in Burma is complex and understudied. Early infections studied by Weniger *et al.*, suggested mostly subtypes B and E of HIV-1 [4]. Data from the Thai–Burma border suggests a predominant subtype E epidemic among persons at sexual risk [6]. The India–Burma border region, appears to have subtypes B, E, and C (personal communication, Manipur State AIDS Program, Imphal, 1997); whereas data from the China–Burma

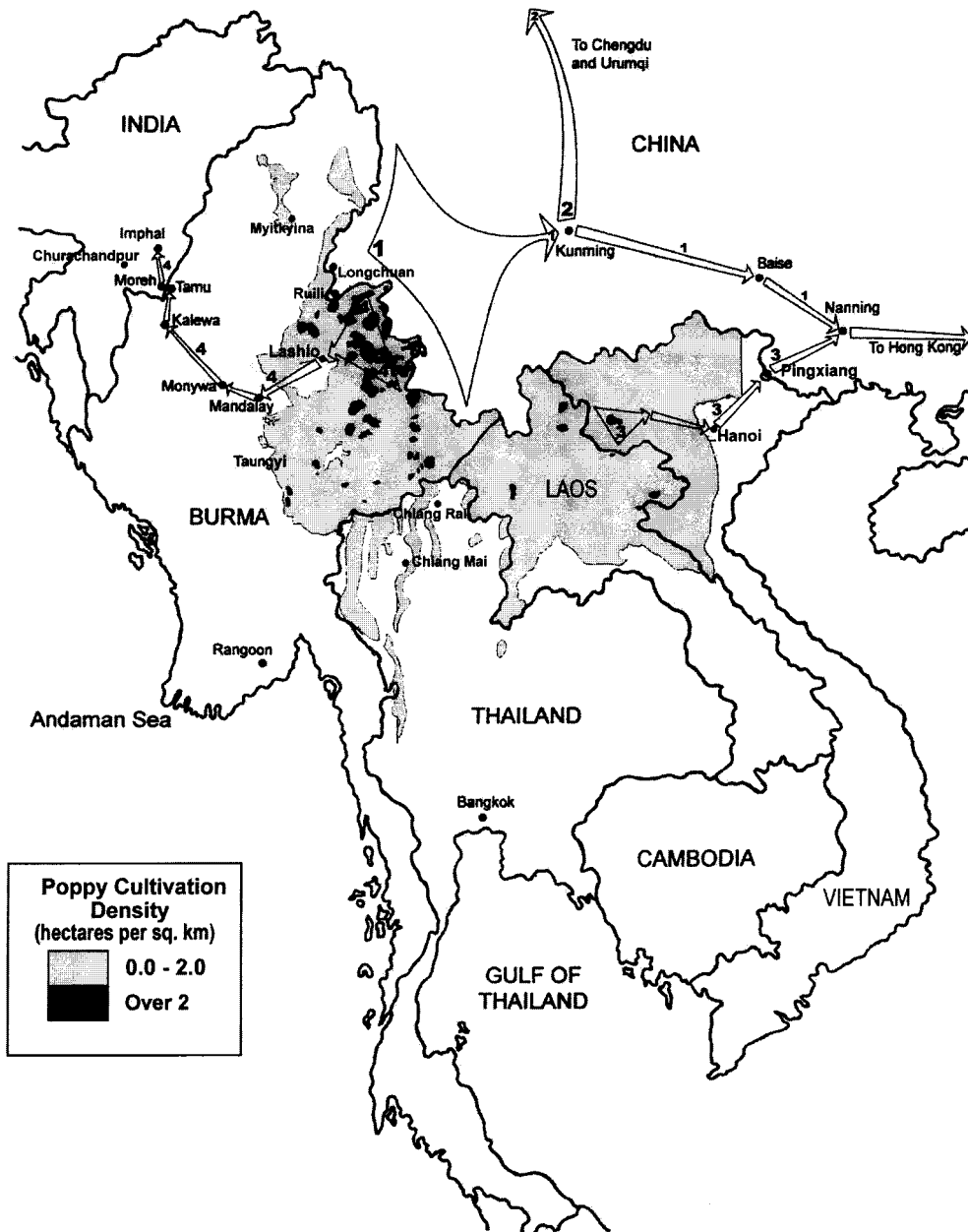


Fig. 1. Opium growing areas and cultivation density, and overland heroin trafficking routes in south and south-east Asia, 1999. Density measured in hectares/km, from 0.0 to over 2.0.

border has shown predominant subtypes B, and more recently, C among injectors there [21,29].

Route 1. Eastern Burma to Yunnan Province, China

Burma shares a long mountainous border with the Chinese Province of Yunnan. (Fig. 1) The principal route for heroin trafficking into China is from the Burmese Wa and ethnic Shan areas, across into Yunnan, by road to the capital, Kunming, and then by air or road to Baize, Nanning, Hong Kong, and to the west. The majority of early cases of HIV infection in

China were in the three Yunnanese border counties that are the first step in this trafficking route [21,29,30]. Indeed, in 1994 these three provinces, with a minute fraction of China's population, accounted for 60% of all infections and 80% of all AIDS cases in the country [2]. The majority of these infections were among ethnic minority peoples in the border region, and virtually all were IDU or the wives of IDU [29,31]. The bulk of these HIV-1 infections were subtype B until 1994–1995, when a shift to subtype C of HIV-1 was detected. [18] Subtype C, and a B/C recombinant,

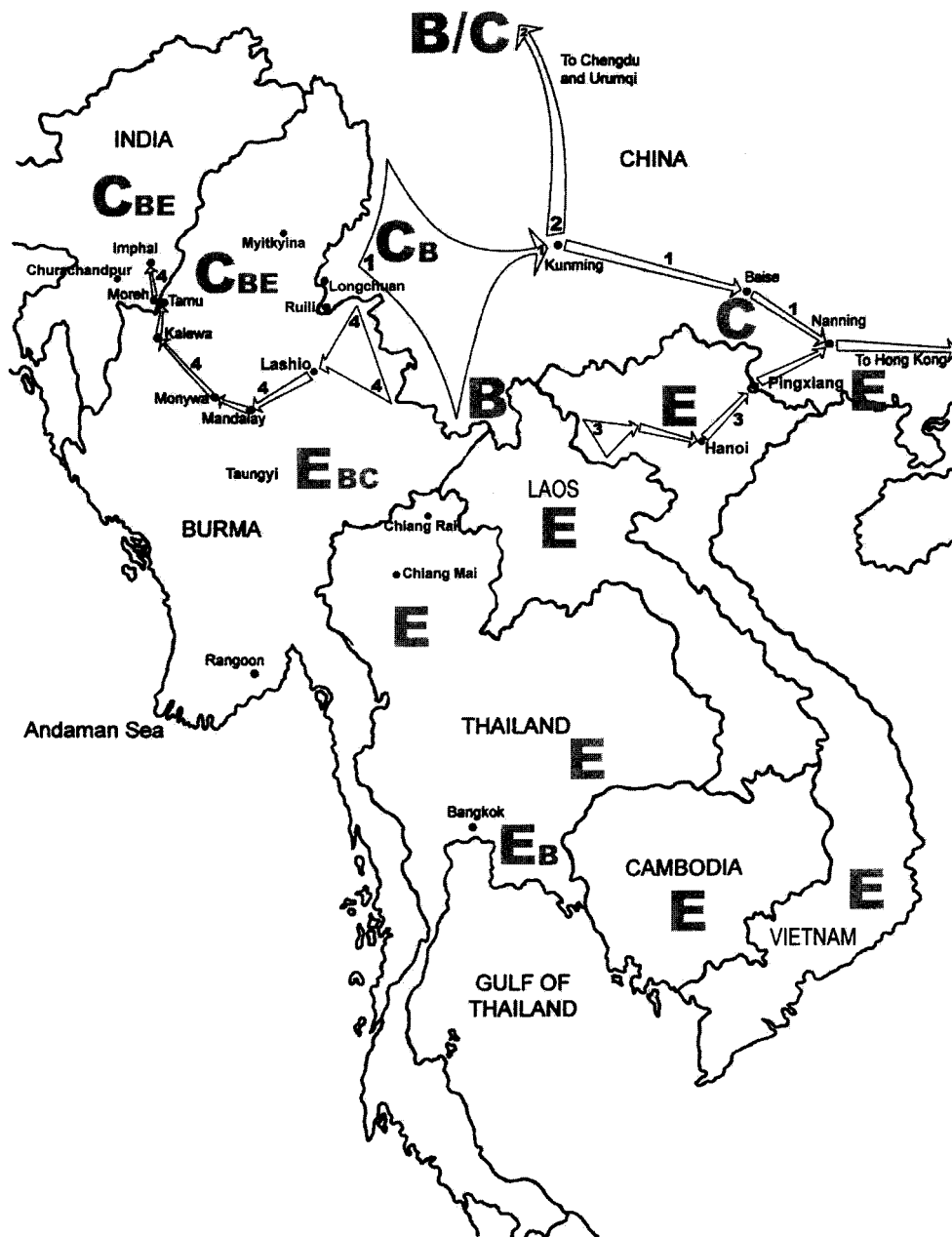


Fig. 2. Four principal heroin trafficking routes and known HIV-1 subtypes (B, C, E, B/C recombinant) in south and south-east Asia, 1999.

have been the predominant viruses to spread beyond Yunnan along trafficking routes [9,21] (Fig. 2).

Heroin going east by road out of Kunming City must pass through the Yunnan–Guangxi border city of Baise. Local police estimated that 100 kg/day of Burmese heroin was being moved along this route in 1998. Baise has experienced a recent epidemic of local heroin injection use. A recent study by our group found that among 91 IDU in Baise, 86 (95%) had begun injecting after 1992, and 47 (52%) had been users for 2 years or less [9]. No HIV infections were

detected in Baise until 1997. However, by late 1997, 77% of 96 IDU screened were HIV infected (Table 1). HIV-1 subtyping was done on nine Baise IDU: 100% had HIV-1 subtype C, with less than 2% genetic variation across individuals, suggesting quite recent spread [9]. Several smaller cities along the same route have recently reported similar recent outbreaks of both injecting drug use and HIV spread to the provincial authorities.

Route 2. Eastern Burma to north-western China

A second route for Burmese heroin also begins in

Table 1. HIV-1 prevalence rates among injecting drug users in selected cities in the overland heroin trafficking region of south and south-east Asia, 1994–1997.

City	Reference	Year	No. of subject	HIV prevalence	HIV-1 subtypes*
Burma					
Rangoon	National AIDS Program	1995	100	69%	B, C, E
Mandalay	National AIDS Program	1995	99	84%	NA
Myitkyina	National AIDS Program	1995	100	96%	NA
Thailand					
Chiang Mai	Celentano <i>et al.</i>	1995	1649	36.3%	E
India					
Imphal	State AIDS Program	1997	6344	80.1%	C, B, E
Churachandpur	State AIDS Program	1997	1248	30.4%	NA
China					
Ruili, Longchuan	Zheng <i>et al.</i> [29]	1994	282	49%	B, C
Baise	Yu <i>et al.</i> [9]	1997	126	77%	C
Pingxiang	Yu <i>et al.</i> [9]	1997	101	22%	E
Vietnam					
Ho Chi Minh	Lindan <i>et al.</i> [10]	1996	NA	39%	E

*Refers to predominant HIV-1 subtypes from reported studies. NA, not available.

eastern Burma, leads to Kunming city in Yunnan, and then goes north and west, through Chengdu, the capital of Sichuan Province, across western China to Urumqi in Xinjiang Province, and then across the Chinese border to Kazakhstan. In 1997, HIV was detected for the first time among a cluster of IDU in Urumqi, the capital city of Xinjiang [21]. HIV-1 subtyping found the outbreak to be caused by subtype C of HIV-1 [21], although a B/C recombinant virus has also been detected and now appears to predominate in Urumqi [32]. This recombinant variant has also been recently isolated from IDU in Yunnan, Sichuan, and Xinjiang, with outbreaks along the highway identified as the principal trafficking route out of Burma [32] (Fig. 2).

Route 3. Burma/Laos to northern Vietnam and into southern China

A third route for heroin trafficking into China is a southern route from Burma and Laos, across the Laos–Vietnam border to northern Vietnam, and then into China through the China–Vietnam border zone of Pingxiang City, Guangxi Province (Fig. 1). It is not known whether this route involves only Laotian, or both Laotian and Burmese heroin. Laos has several major poppy growing areas; one of which, the region of Xiang Khoang, borders both Vietnam and China [16,33]. Pingxiang has had a recent and rapid outbreak of heroin availability, drug injection, and, since 1997–1998, HIV infection among IDU. In a recent study by our group, we found that 83% of injectors in Pingxiang were recent users, with less than 3 years of history of injecting. The first HIV infection in Pingxiang was detected in early 1997; less than 1 year later, 22% of IDU screened were HIV infected (Table 1). The epidemic of HIV in Vietnam has been reported to

be exclusively subtype E, as in neighboring Cambodia [4,9,10]. This holds true for Pingxiang as well; 100% of 19 IDU with HIV infection we studied were found to have subtype E in 1997, a striking contrast to Baise, on the Yunnan route, where 100% had subtype C [9]. Key informant interviews with IDU in Pingxiang revealed that heroin is somewhat cheaper on the Vietnam side of the border than in China, and IDU report crossing the forested border on foot to buy drugs on the Vietnam side. They also report needle sharing with Vietnamese users and traders in ‘self-tests’ of drug quality and purity. This is a clear opportunity for HIV spread among these groups, and across national borders.

Route 4. Western Burma to Manipur State, north-east India

Manipur is a small land-locked State in the north-east of India. Its borders include the Indian states of Nagaland to the north, Assam to the west, Mizoram to the south, and a 358 km border with Burma to the east (Fig. 1). The Burmese border includes the large Sagaing Division and a section of the northern Chin Hills. Manipur is one of the poorest and least developed regions in India, with a 1996 per capita income estimated at 3500 rupees/year, about one-third of the Indian national average [14]. Manipur has been governed under Indian security laws since the 1950s, and is currently patrolled by five Indian military services, in addition to two Manipuri security agencies. The political situation is complex, with a large and long-standing insurgency seeking autonomy, many smaller ethnic insurgencies, numerous armed groups, and several thousand political and economic migrants and refugees from Burma. A state of low-intensity chronic

civil war pervades, and armed clashes, human rights abuses, and violence are endemic.

Manipur appears to have no significant indigenous tradition of opium poppy cultivation [16]. Local officials and drug users are consistent in reporting that heroin from Burma, called locally 'Number 4', began to appear in Manipur in 1982–84. After 1984 the availability and use of heroin increased steadily, reaching epidemic proportions after 1990 [10]. Although precise numbers of addicts are difficult to assess, a 1991 estimate was 15000 IDU [34], it is clear that heroin use is common and has been attributed to widespread availability of Burmese exports [34,35]. Nearly all heroin users studied were injectors [35]. Needle sharing appears to have been common until quite recently; this has begun to change in the last 2–3 years among addicts seeking care and those involved with local information networks.

Local heroin use, however devastating for local people, is only a small fraction of the heroin trade in the state. Since the early 1990s, Manipur has increasingly become a major trade route for Burmese heroin, particularly across the border zone of Moreh (Indian side)–Thamu (Burma side). (Fig. 1) According to local traders and officials, the bulk of heroin moving across the Moreh border is from north-eastern Burma, from the Shan, Wa, and Kokang growing areas, as well as from the Kachin area. The transport route for heroin (via truck) is from these growing and manufacturing areas to Mandalay, then across the Sagaing Division to Thamu (Fig. 1). Local users report traveling across the border and inland to Mandalay to purchase heroin. They also report 'self-testing' heroin, and consequent needle sharing with traders in Mandalay as part of their drug purchasing behaviors. 'Self-testing' is the injection use of heroin by the prospective purchaser to assess the potency and quality of the drug through its use. Key informants in Manipur reported that sharing of both drugs and injection equipment among buyers and sellers was a common feature at these exchanges.

The first HIV infection in the state was detected in an IDU in 1989, the same year that HIV became an epidemic among injectors in Burma and Thailand [15]. Between 1990 and 1991, the HIV prevalence rose from under 1% among addicts to over 50%, and reached 80.1% by 1997 [14,35] (Table 1). HIV spread to other risk groups has since been remarkably rapid; after the epidemic among injectors, there has been subsequent spread to their sex partners, wives and children [10]. Although the data are far from complete, a comparison of Manipur with the rest of India is illustrative: Manipur has about six times the HIV prevalence of the next most affected state, Maharashtra, and 20 times the HIV rate of the India's third most affected region, Tamil Nadu [14]. An estimated 2% of pregnant women

were HIV infected in 1997, and 14.4% of tuberculosis patients in 1996, a figure which had risen from 3.3% only 2 years earlier [14]. Using cumulative data from 1990, however, 73.9% of known HIV infections have occurred among injecting drug users [14]. Surveillance data suggests that the bulk of cases are in the capital, Imphal (69%). However, this is likely to be an artifact of increased screening and testing facilities. The second highest percentage of reported cases is the district of Churachandpur, which includes the trafficking center of Moreh (8.6% of all state cases) [14].

Discussion

A review of epidemiology, molecular epidemiology, and the drug control literature suggests that a pattern has emerged among states neighboring on Burma and to a lesser extent Laos: since the early 1990s, heroin trafficking into China, India, and Vietnam has increased; local use of heroin along trafficking routes has become increasingly common; and this has been followed by predictable, but nonetheless disturbing, outbreaks of HIV infection among local IDU in each of these regions. Indeed, it can be posited that Burmese heroin trafficking routes predict HIV spread among IDU in south and south-east Asia. This situation has potentially important implications for HIV control in this and other regions where heroin trafficking occurs.

A possible mechanism for cross-border HIV spread along heroin trafficking routes was identified through key informant interviews in at least two outbreak areas: Indian IDU reported traveling into Burma to Mandalay (Route 4) to buy drugs, and then 'self-testing' drug purity through self-injection, a process which commonly involves using heroin with local contacts, and needle sharing. Addicts in Guangxi (Route 3) reported essentially the same behavior – crossing into Vietnam to purchase heroin, self-testing, and sharing drugs and injection equipment with their Vietnamese suppliers. In both cases the key informants were petty traders, buying enough drugs to support their habits through small-scale sales. The great bulk of heroin trafficking through both areas is on a much larger scale, and is unlikely to involve local users. However, the data suggest that local, minor, traffickers and users may play an important role in HIV spread along trafficking routes.

There are several limitations to the data sets and analytic methods we have used. Firstly, although key informant interviews were instrumental in understanding the complex processes involved in overland heroin-trafficking patterns, the selection of key informants was, by necessity, non-random. In all four trafficking route areas security concerns made it difficult to

contact key informants, and to protect their confidentiality. Only those IDU and drug traders willing to share their activities and experiences could be contacted, and other findings might have emerged had wider interviews been possible. Secondly, trafficking routes are fluid and evolve rapidly in response to a wide variety of pressures. The consistent finding that local IDU, medical staff, and NGO workers could point with considerable agreement to sudden and rapid upsurges in heroin availability underscores the dynamic nature of this phenomenon. We could not have conducted much of the data collection had collaboration been sought from some of the governments involved. In Burma, in particular, a clear separation from the junta currently in power was essential to our colleagues. Hence, what information some governments might have shared was unavailable.

The lack of HIV-1 subtype data from northern and eastern Burma limits our understanding of a potentially important zone of HIV spread. It is not known if the B/C recombinant which has been reported in Yunnan originated in Burma or is currently circulating there. Much of the subtype data available for Burma is limited to Rangoon, which is geographically distant from any of the border areas of concern. The available evidence suggests that domestic use of heroin has been as devastating for the people of Burma as exports have been for their neighbors. Since the rapid upsurge in heroin production since 1988 coincides with the suppression of the country's democracy movement, and the consolidation of authoritarian rule under the current military junta, the current regime bears, if not culpability, at least responsibility for this public health crisis. A mounting body of evidence suggests that some members of the junta are actively involved in the narcotics industry [16,22–24]. It was this evidence, along with documentation of widespread human rights abuses, that led to the imposition of US sanctions against the junta in July 1997. The junta's failure to address the HIV/AIDS epidemic among the Burmese people, and their inability to decrease the economic dependence on heroin, are poor prognostic indicators for their co-operation in narcotics control in the region. Nevertheless, for border nations including China, India, and Vietnam, reduction in Burmese heroin exports may be the key to controlling their dual epidemics of heroin and HIV infection.

Molecular epidemiology appears to be a useful tool for understanding heroin trafficking routes and the spread of HIV across national borders. Increased information sharing by public health professionals and narcotics control agencies may strengthen both groups' ability to deal with the related problems of overland trafficking and HIV spread in this and other regions.

Several preventive approaches to the reduction of HIV

spread among IDU and their sex partners are currently available, have shown efficacy in some populations, and could be implemented much more widely in south and south-east Asia [37,38]. These approaches include harm reduction strategies through needle and syringe exchange and education of IDU in safer injection practices; drug treatment, including methadone maintenance and detoxification; and promotion of safer sexual practices among IDU to limit sexual spread, including condom education, promotion, and provision and improved services to those suffering from sexually transmitted diseases. Our findings suggest that there is a clear and urgent need for India, China, Vietnam, Burma, and their neighbors to consider, and, where appropriate, to implement these strategies to reduce HIV transmission risks among IDU, and particularly around known or suspected heroin trafficking routes. Methadone, for example, remains unavailable in China and Burma, and is currently limited by Thai law to 45 day detoxification. Countries faced with the challenge of IDU-related HIV spread may need to consider changes in policy quickly to avoid further harm to their populations.

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