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# The emerging HIV epidemic among men who have sex with men in southeastern Europe

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Patterns of HIV transmission in the seven countries of southeastern Europe (Albania, Bosnia and Herzegovina, Croatia, Montenegro, former Yugoslav Republic of Macedonia, Serbia and Slovenia) indicate that men who have sex with men (MSM) bear the highest burden of HIV. In 2008, MSM represented 56% of all HIV cases reported in Serbia, and 71 and 76% in Slovenia and Croatia, respectively. In other countries the number of reported HIV cases attributed to MSM remains low, which is likely due to under reporting. HIV prevalence measured in surveys was the highest among MSM compared with other at-risk groups, ranging from 0.7% in Bosnia and Herzegovina to 6.1% in Serbia. Data on sexual behaviors and HIV testing uptake indicate an urgent need to increase coverage with prevention services.

**KEYWORDS:** Albania • Balkans • Bosnia and Herzegovina • Croatia • former Yugoslav Republic of Macedonia • HIV • late presenters • men who have sex with men • Montenegro • Serbia • Slovenia

HIV epidemics in the WHO European region are attributed to two main modes of transmission: injecting drug use in eastern Europe, and transmission among men who have sex with men (MSM) in the countries of the EU [1]. In the EU countries, the number of HIV cases among MSM has increased by 19% between 2004 and 2008 [2]. Such an increase has also occurred in many eastern and central European countries where homosexual behavior is more stigmatized, and where homosexual risk of HIV acquisition might be less likely to be reported in the HIV case reporting data [3].

There are little data examining the HIV epidemic in southeastern European countries that once formed Yugoslavia. After a series of wars, Yugoslavia was disintegrated in 1995. In this article we describe the recent patterns of the HIV epidemiology among MSM in the ex-Yugoslav countries of southeastern Europe (Bosnia and Herzegovina, Croatia, Montenegro, the former Yugoslav Republic of Macedonia [FYR Macedonia], Serbia and Slovenia) and Albania, and discuss their public health implications. This article also addresses challenges in HIV surveillance data collection and interpretation.

The estimated total population number in the countries discussed is as follows: Albania: 3.2 million; Bosnia and Herzegovina:

3.8 million; Croatia: 4.4 million; FYR Macedonia: 2.0 million; Montenegro: 626,000; Serbia: 9.9 million; and Slovenia: 2.0 million [4].

## Literature search

We conducted literature reviews using PubMed. The following medical subject heading (MeSH) terms were used for PubMed: 'Homosexual, Men' OR 'Homosexual', which were cross-referenced with the keyword (AND) 'HIV' OR the MeSH term 'Human Immunodeficiency Virus' and the keywords 'Albania', 'Bosnia and Herzegovina', 'Croatia', 'Montenegro', 'The former Yugoslav Republic of Macedonia', 'Serbia' and 'Slovenia'. The language was limited to English, and we looked for reports published since 1987. The United Nations General Assembly Special Session (UNGASS) country reports were reviewed as little published data were found on PubMed [101]. The report of the European Centre for Disease Prevention and Control (ECDC) was used to describe the rates of reported HIV infections per million population for the period 2000–2008, and to assess the HIV cases reported among MSM for the years 2004–2008. HIV case reporting data for the years 2002 and 2003 were sought from the reports of the European Centre for the Epidemiological Monitoring of HIV/AIDS, as data for the earlier years were not available for Serbia and Montenegro separately.

### HIV case reporting data

TABLE 1 SHOWS the rates of reported HIV infections per million population for the period 2000–2008 for each country. The rates of reported HIV infections show the increase in HIV in all the countries since 2000, and are the highest in Slovenia (23.9 per million population), followed by Serbia and Croatia [1]. For comparison, according to the ECDC data, the rates of HIV infections per million population in 2008 were 72.4 per million in the Western region of Europe, 15.0 per million in the center of Europe and 179.4 per million in the East [1].

From TABLE 2 it can be seen that the absolute number of HIV cases reported among MSM has been increasing since 2002 in Croatia, Serbia and Montenegro. FIGURE 1 shows the annual proportion of HIV cases attributed to MSM transmission among all HIV cases reported in Croatia, Serbia and Slovenia during the period 2002–2008. Data are not shown for the other countries as the reported number of HIV cases among MSM during 2002–2008 ranged from zero to five per year (TABLE 2). The proportion of cases attributed to transmission among MSM doubled in Croatia and Serbia when 2008 is compared with 2002, while it increased from 50 to 71% in Slovenia in the same period [1,5].

### Late presentation

In Europe, approximately one third of individuals had significant immunodeficiency or clinical AIDS before HIV infection was diagnosed [6]. Surveillance to identify the frequency of late presentation to care remains incomplete across Europe and until recently there was no common definition of late presentation [6]. As reported to the ECDC for the year 2008, data on blood CD4 cell counts indicate that 56.3% of all newly diagnosed HIV cases in Slovenia had a CD4 cell count less than 350 per mm<sup>3</sup>, compared with 25% in Bosnia and Herzegovina and FYR Macedonia [1]. Only Slovenia reported data for MSM, which showed that 43.8% of MSM newly diagnosed with HIV in 2008 had a CD4 cell count less than 350 per mm<sup>3</sup>. Completeness of CD4 data is high for Slovenia (87.5%) but substantially lower

for Bosnia and Herzegovina (25%) and FYR Macedonia (50%). Data on CD4 cell counts for other countries were not available. In Croatia, data on late presenters to care are available from a study that aimed to investigate whether interventions carried out during the Global Fund Project in 2004–2006 had an impact on patients entering care. The study found that MSM who entered HIV care in 2004–2006 (n = 86) were significantly less likely to present late, which was measured by the presence of CD4 cell count below 200/mm<sup>3</sup> or clinical AIDS and the absence of likely recent HIV infection, compared with MSM who entered HIV care (n = 54) in 2001–2003 (28 vs 44%, respectively) [7].

### HIV & sexually transmitted infection prevalence data from community-based surveys

TABLE 3 SHOWS survey data on the prevalence of HIV and syphilis, and some key behavioral indicators from community-based HIV surveys. HIV prevalence ranged from 0.7% in Bosnia and Herzegovina, to 6.1% in Serbia. In Croatia, Bosnia and Herzegovina, Serbia and FYR Macedonia there are only baseline HIV survey data available, while Montenegro is the only country without HIV prevalence data.

HIV testing uptake, measured by the UNGASS Indicator number 8, is mainly low, and ranges from 16% in Novi Sad (Serbia) to 55.9% in FYR Macedonia (TABLE 3). Use of a condom at last anal sex ranges from 43.0% in Slovenia to 75.3% in Croatia. The median age of MSM respondents in all the surveys is less than 30, which might be due to young MSM being more likely to identify themselves as gay and participate in surveys.

In Albania, HIV surveys using respondent-driven sampling (RDS) were conducted in 2008 among injecting drug users (IDUs) and MSM. While no HIV cases were found among IDUs, HIV prevalence among MSM was 1.8% [102]. Anal sex with a commercial partner in the past 6 months was reported by 74.2% of MSM, and 77.1% of these used a condom at last commercial anal sex. Ever having female partners was reported by 50% of MSM, and 84% of these had sex with a female partner in the past 6 months.

**Table 1. Rates of reported HIV infections per million population for 2000–2008, and the cumulative total number of reported HIV infections since the beginning of reporting in the seven countries of southeast Europe.**

Country	Year										Cumulative total <sup>†</sup>
	2000	2001	2002	2003	2004	2005	2006	2007	2008		
Albania	2.3	2.6	4.6	6.5	6.8	7.7	7.7	8.6	8.0	196	
Bosnia and Herzegovina	0.5	2.9	2.4	3.2	2.4	3.4	2.9	0.8	2.1	156	
Croatia	8.1	5.9	9.7	11.3	11.7	14.9	12.8	10.6	14.9	733	
FYR Macedonia	0	0.5	0	0.5	0.5	0.5	3.4	1.5	2.0	26	
Montenegro	10.6	3.0	4.6	9.4	3.2	14.4	6.4	17.7	11.3	86	
Serbia	9.4	12.9	13.7	12.2	13.8	14.0	11.9	12.3	15.7	2317	
Slovenia	6.5	8.5	10.5	7.0	12.0	19.0	16.4	18.3	23.9	404	

<sup>†</sup>Cumulative total is the total number of cases reported per country since the start of reporting.  
FYR: Former Yugoslav Republic.  
Data from [1].

**Table 2. Number of cases of HIV among men who have sex with men reported during 2002–2008, and the cumulative total number of reported HIV infections among men who have sex with men in the seven countries of southeast Europe.**

Country	Year							Cumulative total among MSM <sup>†</sup>	Cases that are MSM among all cumulative HIV cases (%)
	2002	2003	2004	2005	2006	2007	2008		
Albania	1	2	0	0	0	1	2	14	7.1
Bosnia and Herzegovina	2	4	0	3	5	0	1	26	16.7
Croatia	17	24	26	32	37	30	50	347	47.3
FYR Macedonia	0	0	0	0	1	1	0	4	15.4
Montenegro	0	0	0	3	2	5	3	24	27.9
Serbia	27	29	30	42	45	39	65	473	20.4
Slovenia	8	11	15	31	25	30	34	245	60.6

<sup>†</sup>Cumulative total is the total number of cases reported by country since the start of reporting.

FYR: Former Yugoslav Republic; MSM: Men who have sex with men.

Source for data for 2004–2008 from [1]. Source for data for 2002–2003 from [5].

In Bosnia and Herzegovina, the survey conducted among MSM in 2008 found that 43.3% of MSM reported having a female partner in the past 12 months [8]. Knowledge of partner's HIV status is low, as 44.4% of respondents said that they did not know their partner's HIV status and an additional 27.8% said that their partner had never been tested for HIV. Having more than two partners in the past 6 months was reported by 67% of MSM. Casual partners in the past 6 months were reported by 55.4% of MSM, and 49% of these used condoms each time they had sex with a casual partner. Ever buying and/or selling sexual services in exchange for money was reported by 8–9% of MSM, and ever injecting drugs by 6.5%. Of 231 recruited MSM, 152 agreed to be tested for HIV, and HIV prevalence was 0.7%. Prevalence of hepatitis C was 11.5%. No HIV infections were found in the survey conducted in the same year among women who have sex with women (WSW).

A RDS survey carried out in Croatia in 2006 found the following prevalence of infections: HIV: 4.5%; syphilis: 10.6% (measured using the *Treponema pallidum* hemagglutination assay); herpes simplex virus type 2: 9.4%; hepatitis A: 14.2%; hepatitis B surface antigen: 0.6%; hepatitis C antibody: 3.0%; rectal and urethral *Chlamydia trachomatis*: 9.0%; and rectal and urethral gonorrhoea: 13.2% [9]. Having casual partners in the past 12 months was reported by 59.4% of respondents, and 54.8% said that they always used condoms with such partners. Not knowing the HIV status of their current or last steady partner was reported by 47.5% of MSM. A total of 7% of MSM had a female partner at the time when the study was carried out. Ever buying or selling sex was reported by 6.0% of MSM, and ever injecting drugs by 5.3%.

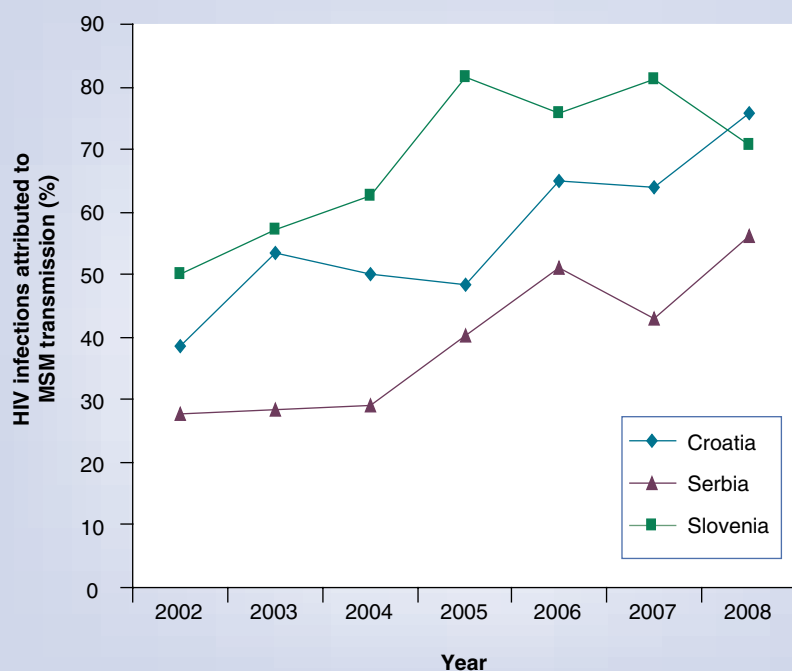
In FYR Macedonia, biobehavioral surveys were carried out in 2005, 2006 and 2007. In the 2006 surveys, no HIV case was found among WSW, while HIV prevalence among IDUs was 0.4% and among MSM 2.2% [103]. In the 2007 surveys, no HIV cases were detected in any of these three groups, although sample sizes among WSW and MSM were 67 and 37, respectively.

There are no HIV survey data among MSM in Montenegro though there was an attempt to carry out an RDS survey in 2007 [104]. The survey failed, and the failure was attributed to stigma, discrimination and fear of being identified as MSM [104].

Surveys carried out in Serbia found a higher prevalence of HIV among MSM in Belgrade (6.1%) and Novi Sad (2.4%), compared with IDUs (3.7% in Belgrade and lower in other cities) and sex workers (2.2% in Belgrade) [105]. The median number of partners in the past 12 months among MSM in Belgrade and Novi Sad was three and two, respectively. A small proportion of MSM reported ever buying sexual services – 3.3% in Belgrade and 3.6% in Novi Sad. However, selling sex was more common, and it was reported by 14.6 and 7.6% of MSM in Belgrade and Novi Sad, respectively. Condom use at last commercial anal intercourse was 52% in Belgrade. Having female partners in the past 12 months was common, as it was reported by 22.4% of MSM in Belgrade and 31.6% in Novi Sad. Ever injecting drugs was reported by 5.7 and 7.2% of MSM in Belgrade and Novi Sad, respectively.

A survey carried out in Ljubljana, Slovenia in 2008 as part of a larger European project used time–location sampling, and the HIV prevalence measured was 5.1% [10]. The median number of steady and casual partners in the past 6 months was one and three, respectively. Consistent condom use in the past 6 months was reported by 58.8% of respondents who had anal sex with a casual partner, and by 36.6% of those with steady partners.

Slovenia also has an HIV sentinel surveillance system since 1999, which consists of 1 day cross-sectional studies using saliva specimens. Recruitment is carried out at one MSM community venue in Ljubljana [11]. HIV prevalence ranged from 1.7% (n = 120) in 1999 to 2.2% (n = 137) in 2008. A behavioral component to the sentinel HIV serosurveillance was added in 2001. Behavioral trend data indicate a decrease in safe sexual behaviors as the proportion of MSM reporting using a condom at last anal intercourse decreased from 81% in 2004 to 66%



**Figure 1. Proportion of reported HIV infections attributed to homosexual transmission in the total number of HIV cases reported in Croatia, Serbia and Slovenia in 2002–2008.**

2004–2008 data from [1] and 2002–2003 data from [5].

in 2008. Additional data on prevalence of HIV in a national convenience sample of male clients of sexually transmitted infection (STI) outpatient services tested for syphilis during 1999–2008 suggest an increase in HIV prevalence from 0% in 1999 to 3.4% in 2008. A substantial proportion of these male STI clients are MSM.

### Molecular epidemiology

Molecular epidemiological studies on HIV-1 subtypes are available from Albania [12,13], Croatia [14], Serbia [15] and Slovenia [16,17]. A study conducted in Albania identified 65% of the strains recovered from 66 individuals as being non-B subtypes during the period 1994–2003 [12]. The proportion of non-B subtypes reported from Croatia and Slovenia were 26% of 145 and 16% of 131, respectively [14,16]. A small study of 43 individuals from Serbia identified over 90% of the strains as being subtype B [15]. The non-B subtypes found in these studies correspond mostly to subtypes of African origin. In Albania, a study using high-resolution phylogenetic and molecular clock analysis suggested a single major introduction of HIV-1 subtype A from Greece followed by local epidemic spread. In Croatia, non-B subtypes were found only in individuals with a heterosexual risk, mainly in seamen and their steady sexual partners. We have hypothesized that sailors change their sexual behavior while staying in Croatia and usually infect only their steady partners. Because of a traditional gender role, women who are regular sexual partners of sailors do not contribute to

further spread of non-B HIV-1 subtypes in Croatia. Whether a similar pattern of heterosexual transmission occurs in other southeastern European countries is not known. In Albania, phylogenetic analysis suggested an outbreak of subtype A during a relatively short time interval [13], however, reliable data on the mode of transmission is lacking.

The pattern of heterosexual transmission in these seven southeastern European countries is different to that in western European countries where this route of transmission is mainly found in individuals originating from countries with high HIV prevalence. HIV-1 infection in IDUs in eastern Europe, particularly the Ukraine and Russia, can almost entirely be attributed to subtype A, former Soviet Union variant [18]. This suggests that there were no or fewer exchanges of HIV strains between IDUs from eastern and southeastern Europe.

Recent data from Croatia and Slovenia indicate that newly HIV diagnosed individuals and those with recent HIV infection are mainly MSM with subtype B infection [17,19]. Clusters of cases among

MSM have also been identified in Croatia and Slovenia [17,19]. Based on these findings, there is now evidence that this population is sexually networked. Since there was a high degree of phylogenetic homology between individuals in some of the clusters, this indicates recent and ongoing spread of HIV infection among MSM in Croatia and Slovenia.

### Stigmatization of MSM

There are few data on the extent of stigmatization of MSM. According to the RDS survey in Croatia, 20% of MSM reported being exposed to physical violence because of their sexual orientation at least once in their life, and 46% were exposed to mockery on at least one occasion [9]. Data from surveys carried out in Serbia in 2008 show that only 67.2% of MSM in Belgrade and 45.5% in Novi Sad revealed their sexual orientation while testing for HIV at voluntary counseling and testing centers [105]. An internet study implemented by the non-governmental organization Labris in Serbia in 2005 revealed that as many as 70% of respondents experienced physical or psychological violence because of their sexual preference [20]. Qualitative research done among MSM in FYR Macedonia, Kosovo, Romania and Bulgaria found that stigma associated with male-to-male sex prevents men from seeking information about HIV and STIs, and STI treatment when needed [21]. Fear of being identified as gay and lack of confidentiality at clinics that provide STI care was found to be one of the key obstacles to seeking STI treatment.



**Table 3. Most recent HIV and syphilis prevalence data, and HIV-related behaviours among men who have sex with men from community-based surveys.**

City, country (year of survey)	HIV prevalence (%)	Syphilis prevalence (%)	Tested for HIV in the past 12 months and know their test result (%)	Used condom at last anal sex (%)	Sampling method	Sample size (n)	Median age of participants (years)	Ref.
Tirana, Albania (2008)	1.8	2.6	44.9	59.1 <sup>†</sup>	RDS	198	26.5	[102]
Several cities, B&H (2008)	0.7 <sup>‡</sup>	0.7 <sup>‡</sup>	45 <sup>§</sup>	57 <sup>¶</sup>	Snowball	231	26 (mean age)	[8]
Zagreb, Croatia (2006)	4.5	10.6	21.4 <sup>#</sup>	75.3 <sup>**</sup>	RDS	370	27	[9]
Several cities, FYR Macedonia (2006)	2.2	NA	55.9	56.5	Convenience	46 <sup>**</sup>	NA	[103]
Belgrade, Novi Sad, Serbia (2008)	6.1	NA	31.3	67.1	RDS	246	43.5% less than 24 years;	[105]
	2.4	NA	16.0	58.4	RDS	250	48.4% less than 24 years	
Ljubljana, Slovenia (2008)	5.1	NA	38.2	43.0	TLS	389	29.5	[10]

<sup>†</sup>With nonregular, noncommercial partner.

<sup>‡</sup>152 respondents were tested for HIV and syphilis.

<sup>§</sup>Ever been tested for HIV.

<sup>¶</sup>Used condom with a casual partner in the last 6 months.

<sup>#</sup>Tested for HIV in the past year.

<sup>\*\*</sup>Used condom at last anal sex with a casual partner.

<sup>\*\*</sup>The sample for HIV prevalence; the sample size for HIV testing rate and condom use is not apparent from the United Nations General Assembly Special Session country report.

B&H: Bosnia and Herzegovina; FYR: Former Yugoslav Republic; NA: Not available, RDS: Respondent-driven sampling; TLS: Time-location sampling.

### Expert commentary

In the seven countries of southeastern Europe, HIV epidemiological patterns have evolved considerably, suggesting that MSM is the group most affected by HIV. In all the countries where HIV surveys were conducted in other at-risk populations (IDUs and female sex workers), HIV prevalence was the highest among MSM. In community-based surveys, HIV prevalence that was either close to or higher than 5% was found in Croatia, Serbia and Slovenia, where MSM also represent the majority of all reported HIV cases in recent years [9,10,105]. These HIV prevalence levels are lower than that in the countries of western Europe, where they range from 5.3% in Ireland to 18.6% in Barcelona, Spain [3]. Interestingly, now that over 10 years have passed since the end of Balkan wars, the data on the pattern of HIV transmission do not suggest an impact of war events on HIV spread in Bosnia and Herzegovina, Croatia and Serbia. Despite displacement of more than 2.7 million people and disruption of cultural and social norms, the HIV epidemic has evolved in a typical path of predominantly affecting MSM, one of the classical risk groups.

Sexual behaviors of MSM in these seven southeastern European countries are characterized by frequent casual partnership, commercial sexual activities and partnerships with females. Ever using injectable drugs among MSM was 5.3% in Croatia, 6.5% in Bosnia and Herzegovina, and 7.2% in Serbia, and is another factor that can contribute to acquisition of parenterally transmitted infections, such as HIV and hepatitis B and C.

The differences in the case reporting data among MSM and results of HIV prevalence and biobehavioral studies in these seven countries of southeastern Europe should be interpreted in the context of the quality of these data collection mechanisms, which is affected by the levels of stigmatization of MSM communities, and the survey design issues such as the sample size, the sampling method and finally how representative the data is. The quality of HIV case reporting also depends on the sensitivity of the system, which is influenced by the extent to which those at risk access HIV testing services. According to the ECDC data, HIV testing uptake in the seven countries of southeastern Europe is low. In 2008, the number of HIV tests performed was 8.8 out of 1000 individuals in Croatia, 6.8 out of 1000 in Montenegro, 6.0 out of 1000 in Serbia and 15.5 out of 1000 in Slovenia [1]. For comparison with the EU countries where such data were available for 2008, the number of HIV tests done in France and the Czech Republic was 78.1 out of 1000 and 33.0 out of 1000, respectively [1].

Data on the uptake of HIV testing from the community-based surveys indicate the need to increase the coverage of the MSM population with testing services. Where data on coverage with other prevention services are available, they suggest low coverage. For example, it is estimated that 13.4% of MSM in Belgrade are covered for HIV prevention programs and 7.2% in Novi Sad [104]. In Montenegro, by the end of 2008, only 142 MSM had taken part in an HIV prevention program [103].

Underreporting of homosexual behavior among newly diagnosed HIV cases is likely in most of the seven countries of southeastern Europe owing to stigmatization associated with disclosure of sex between men as a mode of transmission. According to the UNGASS reports, in Bosnia and Herzegovina and FYR Macedonia, the proportion of HIV infections attributed to homosexual transmission in the cumulative number of cases reported since the beginning of reporting until the end of 2009 was 17.2 and 12.6%, respectively [103,106]. Consequently, it is officially acknowledged that in both countries the heterosexual transmission predominates. However, the male to female ratios in the cumulative number of HIV cases reported suggest substantial underreporting of homosexual behavior. Until the end of 2009 in Bosnia and Herzegovina, the cumulative total of reported HIV infections was 163, with a male to female ratio of 3:1. Similarly, in FYR Macedonia, the cumulative number of HIV infections reported until the end of 2009 was 120, with a male to female ratio of 2.6:1. Such evidence additionally challenges the view that HIV epidemics in the seven countries of southeastern Europe are due to heterosexual transmission.

More extensive prevalence data on STIs among MSM are only available from Croatia, and suggest a rather high prevalence of acute bacterial STIs and of lifetime exposure to syphilis [9]. Earlier, we described that STI clinics that provide STI treatment, care and prevention for MSM are substantially less available in eastern compared with western Europe, which explains the poorer availability of HIV and STI data from these sites, as well as rarely available prevalence estimates of STIs, such as gonorrhoea, chlamydia and herpes simplex virus type 2 from community-based surveys [22]. Lack of such services contributes to limited diagnostics and treatment of STIs, and also limits the interpretation of HIV and STI epidemiology. There are also barriers in the healthcare system discouraging clients from visiting existing STI services. For example, in Croatia multiple visits to primary care physicians, dermatovenerologists and microbiology laboratories are needed for the diagnosis and treatment of a single episode of a STI.

Of note is a relatively high prevalence of hepatitis C among MSM in the surveys in Croatia and Bosnia and Herzegovina, which raises the importance of monitoring this infection owing to its transmission via sexual and injecting routes [23,24].

### Five-year view

HIV surveillance in southeastern Europe needs improvement, both in increasing the quality of case reporting and in designing community-based prevalence surveys whose sample sizes should be large enough to enable monitoring of HIV prevalence and HIV-related risk behaviors over time. Community-based surveys in Albania, Croatia, Serbia and Slovenia used RDS and time–location sampling, which are methods that have been widely used in international settings to recruit hidden populations [25,26], although the surveys in Albania and Serbia are limited by the small sample sizes. In addition, HIV incidence-based surveillance should be developed as a more effective tool to monitor recent HIV transmission, thus enabling better estimation of the impact that HIV responses are having on the epidemic.

In these seven countries of southeastern Europe, national HIV programs should focus prevention efforts on the MSM population and address the main factors of HIV transmission, these being a high number of partners, commercial sex, injecting drug use and stigmatization. Addressing stigma is an important part of successful HIV prevention as it enables and supports development of outreach and community-based interventions. The success in decreasing the spread of HIV among MSM will depend mainly on three factors: planning and achieving a higher coverage of comprehensive HIV prevention programs, efforts to decrease stigmatization and more funding for prevention. Service provision should be incorporated more into ‘mainstream’ healthcare systems by training service providers in the health needs of MSM, development of MSM-friendly STI clinics, and promoting HIV testing and counseling.

### Financial & competing interests disclosure

*The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.*

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### Key issues

- The rates of reported HIV infections per million population in the seven countries of southeastern Europe range from 2.1 per million population in Bosnia and Herzegovina to 23.9 per million population in Slovenia, compared with 72.4 per million population in the countries of western Europe.
- Patterns of HIV transmission have evolved considerably in the seven countries of southeastern Europe, indicating that men who have sex with men (MSM) bear the highest burden of HIV.
- The proportion of HIV cases attributed to homosexual transmission among all HIV cases reported in the year 2008 was 56% in Serbia, 76% in Croatia and 71% in Slovenia. In the other countries, the absolute number of newly reported HIV cases that are MSM are small (range: 0–3), as is the total number of annual reported cases of HIV (range: 4–116).
- Based on HIV prevalence measured in recent community-based surveys, a concentrated epidemic among MSM is emerging.
- HIV-related behaviors among MSM are characterized by frequent commercial sex activities and partnerships with women.
- Where data are available, ever injecting drugs among MSM varies with 5.3% in Croatia, 6.5% in Bosnia and Herzegovina, and 7.2% in Serbia.

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- Presents HIV surveillance data among men who have sex with men (MSM) in 30 countries of the EU and European Free Trade Association (EFTA) for the period 2000–2006. In 23 countries with data for 2000–2006, the number of new HIV diagnoses among MSM increased by 86% from 3003 to 5571. The rates of AIDS diagnoses and AIDS deaths decreased, which reflects relatively good access to therapy. However, the increasing numbers of new HIV diagnoses and relatively high prevalence of HIV among MSM suggest the need for Europe-wide HIV prevention among MSM.
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