Antiretroviral treatment for injecting drug users in developing and transitional countries 1 year before the end of the ‘Treating 3 million by 2005. Making it happen. The WHO strategy’ (‘3by5’)*

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ABSTRACT

Objective To describe and estimate the availability of antiretroviral treatment (ART) to injecting drug users (IDUs) in developing and transitional countries. Methods Literature review of grey and published literature and key informants’ communications on the estimated number of current/former injecting drug users (IDUs) receiving ART and the proportion of human immunodeficiency virus (HIV) attributed to injecting drug use (IDU), the number of people in ART and in need of ART, the number of people living with HIV/acquired immunodeficiency syndrome (AIDS) (PLWHA) and the main source of ART. Results Data on former/current IDUs on ART were available from 50 countries (in 19 countries: nil IDUs in treatment) suggesting that ~34 000 IDUs were receiving ART by the end of 2004, of whom 30 000 were in Brazil. In these 50 countries IDUs represent ~15% of the people in ART. In Eastern European and Central Asia IDU are associated with > 80% of HIV cases but only ~2000 (14%) of the people in ART. In South and South-East Asia there were ~1700 former/current IDUs receiving ART (~1.8% of the people in ART), whereas the proportion of HIV cases associated to IDU is > 20% in five countries (and regionally ranges from 4% to 75%). Discussion There is evidence that the coverage of ART among current/former IDUs is proportionally substantially less than other exposure categories. Ongoing monitoring of ART by exposure and population subgroups is critical to ensuring that scale-up is equitable, and that the distribution of ART is, at the very least, transparent.

Keywords Antiretroviral treatment, HIV, IDU, PLWHA.

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INTRODUCTION

Antiretroviral treatment (ART), which has been available in the developed world since the 1980s, has been one of the great success stories in the fight against human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) and has changed HIV into a manageable health status rather than a terminal illness [1]. The provision of ART is the most important component of comprehensive care package (including medical, social, legal and other support) that should be delivered to people living with HIV/AIDS to meet all their needs [2].

Antiretroviral drugs aim to control the reproduction of the virus and to slow the progression of HIV-related disease. Anti-HIV medications approved by the US Food and Drug Administration (FDA) fall into four classes: (a) nucleoside analogue reverse transcriptase inhibitors (NRTIs) (Delavirdine, Efavirenz and Nevirapine); (b) nonnucleoside reverse transcriptase inhibitors (NNRTIs) (Abacavir, Didanosine and Emtricitabine, among others);
of guidelines in place, and substance abuse treatment should be strongly encouraged simultaneously, along with prevention counselling for sexual risk reduction [12].

Further, coinfection with hepatitis B or C is not a barrier to benefitting from ART (although HIV/HCV coinfected patients experience a slightly poorer CD4 count response [11]). However, evidence is emerging that the substantial decrease in AIDS morbidity and mortality after the introduction of ART has been less impressive among HIV-infected IDUs compared to HIV-infected non-IDUs [14–16].

There is growing evidence that emerging disparities in HIV-related mortality are due to problems with access to antiretrovirals and retention in treatment among specific subpopulations who have traditionally been at risk of inferior access to health care, among them IDUs [17], and that a high proportion of the ongoing AIDS mortality in the developed world is due to poor access to therapy among disadvantaged or marginalized populations [18]. It has been reported that drug users have not only had suboptimal access to and utilization of HAART [19,20], but they also tend to initiate HAART at a more advanced stage of infection [21], instead of the recommendation to start HAART when the CD4 lymphocyte count is 201–350 cells/mm³ [22]. This paper provides an overview of the availability and access to ART among IDUs in developing and transitional countries 1 year before the end of the ‘3by5’ initiative.

METHODS

Literature review of grey and published literature and key informants’ reports to describe the availability of ART to IDUs in developing and transitional countries

The review focused on the 103 developing and transitional countries with evidence of an IDU population [6], grouped in accordance with the Human Development Report 2003 [23] and UNAIDS regions [24]. Reported or estimated data were sought on: (a) the number of former and current IDUs receiving ART; and (b) the proportion of HIV cases attributed to IDUs. In addition, data were collated on: (c) the reported number of people in ART; (d) the estimated number of people in need of ART defined, in the 3by5 Progress Report December 2004 [4], as the mid-point of the low and high estimates of the number of AIDS deaths and the number of AIDS cases; (e) the number of PLWHA; and (f) the main source of ART (public scheme/private sector/non-governmental organizations (NGOs)/unavailable). The search for information targeted any type of ART provided. It is beyond the scope of this paper to present results for specific medical regimens or drugs provided.
Table 1  ART at the end of 2004 in developing and transitional countries with IDUS and estimates of former/current IDUS receiving ART.

<table>
<thead>
<tr>
<th>Country</th>
<th>% of people in ART</th>
<th>HIV associated to IDU (%)</th>
<th>Reported no. of people receiving ART</th>
<th>Estimated no. of people in need of ART</th>
<th>ART coverage (%)</th>
<th>PLWHA (2003)²</th>
<th>Main source of ART</th>
</tr>
</thead>
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<tr>
<td>1a. Eastern Europe and Central Asia</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Armenia</td>
<td>13</td>
<td>65.0</td>
<td>56.6</td>
<td>20</td>
<td>100</td>
<td>20.0</td>
<td>2 600</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>0</td>
<td>NA</td>
<td>59.7</td>
<td>0†</td>
<td>120</td>
<td>0.0</td>
<td>1 400</td>
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<tr>
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<td>48</td>
<td>45.7</td>
<td>71.1</td>
<td>105</td>
<td>850</td>
<td>12.4</td>
<td>27 000†</td>
</tr>
<tr>
<td>Bosnia and H.</td>
<td>4</td>
<td>26.7</td>
<td>14.9</td>
<td>15</td>
<td>20</td>
<td>75.0</td>
<td>900</td>
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<tr>
<td>Croatia</td>
<td>19</td>
<td>8.4</td>
<td>11.0</td>
<td>226</td>
<td>280</td>
<td>80.7</td>
<td>&lt; 200</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>11</td>
<td>3.4</td>
<td>4.8</td>
<td>322</td>
<td>380</td>
<td>84.7</td>
<td>2 500</td>
</tr>
<tr>
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<td>45</td>
<td>32.1</td>
<td>90.0</td>
<td>140</td>
<td>200</td>
<td>70.0</td>
<td>7 800</td>
</tr>
<tr>
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<td>36</td>
<td>39.1</td>
<td>68.1</td>
<td>92</td>
<td>130</td>
<td>70.8</td>
<td>3 000</td>
</tr>
<tr>
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<td>5</td>
<td>1.4</td>
<td>1.6</td>
<td>371</td>
<td>450</td>
<td>82.4</td>
<td>2 800</td>
</tr>
<tr>
<td>Kazakhstan</td>
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<td>66.7</td>
<td>84.0</td>
<td>57</td>
<td>500</td>
<td>11.4</td>
<td>16 500</td>
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<tr>
<td>Kyrgyzstan</td>
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<td>79.7</td>
<td>25</td>
<td>100</td>
<td>25.0</td>
<td>3 900</td>
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<tr>
<td>Latvia</td>
<td>84</td>
<td>52.5</td>
<td>81.2</td>
<td>160</td>
<td>230</td>
<td>69.6</td>
<td>7 600</td>
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<td>10.3</td>
<td>83.0</td>
<td>58</td>
<td>80</td>
<td>72.5</td>
<td>1 300</td>
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<tr>
<td>Moldova</td>
<td>61</td>
<td>43.3</td>
<td>74.0</td>
<td>141</td>
<td>200</td>
<td>70.5</td>
<td>5 500</td>
</tr>
<tr>
<td>Poland</td>
<td>0 010</td>
<td>43.4</td>
<td>82.3</td>
<td>2 328</td>
<td>3 000</td>
<td>77.6</td>
<td>14 000</td>
</tr>
<tr>
<td>Romania</td>
<td>3</td>
<td>0.1</td>
<td>0.1</td>
<td>6 116</td>
<td>7 500</td>
<td>81.6</td>
<td>6 500</td>
</tr>
<tr>
<td>Russian Federation</td>
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<td>5.7</td>
<td>87.0</td>
<td>3.227</td>
<td>99 000</td>
<td>3.3</td>
<td>860 000</td>
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<td>1b. Western Europe (only transitional countries)</td>
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<td>5.3</td>
<td>7.4</td>
<td>114</td>
<td>130</td>
<td>59.2</td>
<td>&lt; 500</td>
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<tr>
<td>Serbia and M.</td>
<td>150</td>
<td>31.9</td>
<td>55.6</td>
<td>470</td>
<td>626</td>
<td>79.9</td>
<td>10 000</td>
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<tr>
<td>1c. South &amp; South-east Asia</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Afghanistan</td>
<td>0†</td>
<td>0.0</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>Bangladesh</td>
<td>10</td>
<td>0.0</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>India</td>
<td>400</td>
<td>1.4</td>
<td>–‡</td>
<td>–</td>
<td>&lt; 1 000</td>
<td>0.5</td>
<td>8 750</td>
</tr>
<tr>
<td>Indonesia</td>
<td>775</td>
<td>31.0</td>
<td>34.0†</td>
<td>2 500</td>
<td>770 000</td>
<td>3.6</td>
<td>5 100 000</td>
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<tr>
<td>Iran</td>
<td>125</td>
<td>20.8</td>
<td>64.0†</td>
<td>600</td>
<td>3 650</td>
<td>16.4</td>
<td>31 000</td>
</tr>
<tr>
<td>Lao</td>
<td>0§</td>
<td>0.0</td>
<td>–</td>
<td>–</td>
<td>&lt; 200</td>
<td>52.0</td>
<td>1 700</td>
</tr>
<tr>
<td>Malaysia</td>
<td>127</td>
<td>4.7</td>
<td>75.0†</td>
<td>2 700</td>
<td>7 500</td>
<td>36.0</td>
<td>52 000</td>
</tr>
<tr>
<td>Myanmar</td>
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<td>0.7</td>
<td>26.0</td>
<td>1 500</td>
<td>46 500</td>
<td>3.2</td>
<td>330 000</td>
</tr>
</tbody>
</table>

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remaining ~4000 spread across 32 countries. Overall, in these 50 countries IDUs represent ~15% of the reported people in ART (~216 300). The number and proportion of IDU in receipt of ART varied by region, but unfortunately an overall estimate of the proportion of HIV cases attributable to IDU within the 50 countries could not be generated with any confidence.

In the Eastern European and Central Asian countries, where approximately 131 000 people were estimated to need ART, approximately 15 400 were reported as receiving ART (i.e. coverage 14.4%) and approximately 2000 former/current IDUs were receiving ART (13.6% of the number of people in ART in the region); whereas the percentage of HIV cases attributed to IDU was approximately 81% (1.08 million of 1.3 million PLWHA). Armenia, Belarus, Kazakhstan, Kyrgyzstan, Latvia, Moldova and Poland reported the greatest proportion of IDUs receiving ART at > 43%. In four countries—Azerbaijan,
Tajikistan, Turkmenistan and Uzbekistan—ART is unavailable. In four countries the proportion of IDUs among HIV-positive people receiving ART is greater than the percentage of HIV cases attributable to IDU (Armenia, Bosnia and Herzegovina, Kyrgyzstan and Slovakia). In 9 countries the representation of IDUs among people in ART is clearly lower than the percentage of HIV cases associated with IDU (Belarus, Estonia, Georgia, Latvia, Lithuania, Moldova, Poland, Russia and Ukraine).

In 14 countries of South and South-East Asia, with an estimated 1 million people in need of ART and 81 000 receiving it. 1700 (ART general coverage: 1.8%) were former/current IDUs. In contrast, the proportion of IDU among HIV cases within the region ranges from 4% to 75%. Only in Vietnam is there near equivalence between the proportion of IDUs receiving ART (50%) and the proportion of IDU-attributed HIV cases (60%). India has the largest number of people receiving ART at 28 000 (3.6% of the estimated number in need of treatment). Although the overall number of HIV cases attributed to IDU is not known, injecting drug use is the main exposure category in the North-eastern States of Manipur and Nagaland, and in India as a whole only 400 IDUs were reported as receiving ART [26] (i.e. 1.4% of the people in ART).

In North Africa and the Middle East only Turkey reports IDUs receiving ART (n = 15), with 3% IDU receiving ART compared to an estimated 6% of HIV cases attributed to IDU. Four other countries—Egypt, Sudan, Syria and Tunisia—report nil IDUs receiving ART. Information on HIV cases associated to injecting drug practices was found in 12 countries, with Libya reporting the highest percentage of HIV cases attributed to IDU (90%) [17], followed by Bahrain (67%). No data were found on the number of IDUs receiving ART in these two countries. ART general coverage was very low in Egypt and Sudan (2.8% and 0.8%, respectively), high in Syria (9 3.6%) and in Tunisia estimated coverage exceeded 100%, suggesting erroneous data either in estimates of the number of people in need of, or receiving, ART. No information was available for any sub-Saharan countries with IDUs.

Brazil, the only country in Latin America and Caribbean with data on IDUs receiving ART, reported the largest number of IDUs in treatment globally among transitional and developing countries at approximately 30 000 (19.5% of the total number of people in ART), compared to an estimated 50% of HIV cases attributed to IDU, depending on the area.

In addition, information on PLWHA and availability of ART was available for other developing and transitional countries (but where data for IDUs receiving ART were unavailable). Estimates of approximately 23 million PLWHA were found for 94 of 103 developing and transitional countries with a known IDU population. Data on the availability of ART was found for 92 of these developing and transitional countries: 60 through a public scheme, and 26 through NGOs and private resources. ART was unavailable in six countries: Azerbaijan, (Republic of) Korea, Somalia, Tajikistan, Turkmenistan and Uzbekistan. Data on the number receiving ART were reported for 81 of these countries, yielding a total of 4 35 000 (12% of the estimated number in need of ART).

**DISCUSSION**

We collated data on the number of IDU receiving ART, and where possible compared them to the proportion of HIV attributed to injecting drug use. Data were found for 50 developing and transitional countries, where approximately 34 000 former/current IDUs were receiving ART (approximately 8% of the people in ART), but of whom approximately 30 000 were in one country (Brazil). In Eastern Europe and Central Asia injecting drug use accounts for more than 80% of HIV cases, but less than 14% of people receiving ART are current/former IDUs, implying particularly difficult access to ART by this population. However, the overall coverage rate for ART in Central and Eastern Europe is 14% of all people in need of ART, and any regional statistic in Central and Eastern Europe is dominated by low coverage rates in high HIV burden countries such as Ukraine and Russia. In South and South-East Asia the evidence suggests that only 1% of the people in ART were current or ex-IDUs, whereas most countries had a higher proportion of HIV attributed to IDUs and IDUs comprised more than 20% of HIV cases in five countries.

We acknowledge a number of potential inaccuracies and inconsistencies. First, some numbers of IDUs receiving ART have been missed because the targeted countries in this review were only developing and transitional countries (‘3by5’-targeted countries), with estimates of IDUs populations [6]. Secondly, there is a lack of comparable surveillance data from the countries forcing us to rely on key informants and a range of report sites which, although we verified with UN agencies to check whether there were other data available, the data may be inaccurate or out of date. Thirdly, we acknowledge the possible imperfections of the methods and results for the indicators ‘PLWHA,’ ‘estimated number of people in need of ART’ and ‘reported number of people in ART’ and the effect that they might have in the reliability of the results presented here (e.g. note that in Romania and Croatia the estimated number of people in need of ART exceeds the estimated number of PLWHA). The rationale that guided us, however, was that, given that all estimates are subjected to some criticism at least, by choosing one as unique as possible source for each indicator that would provide information in as many countries as possible, would allow a better judgement of the limits of this study.
and would limit the number of problems derived by the problems of different estimates.

WHO estimates the number of people in need of ART from AIDS cases and mortality data, which may have a different proportion of IDUs cases than the proportion of HIV cases attributable to IDU which we used as our source of comparison. Data on the number of people in need of ART by transmission group have not yet been estimated and therefore coverage for the IDUs population could not be addressed in this paper (but would be required in future in order to monitor coverage by exposure or population group). In spite of these considerations, this paper provides our best and most plausible overview of the situation of IDUs regarding access to ART in developing and transitional countries 1 year prior to the end of ‘3 by 5’, which suggests a low ART coverage in developing and transitional countries (12% of the estimated number in need of ART between the 81 countries where the information on this indicator was available) and an (often substantial) imbalance between the proportion of HIV attributed to injecting drug use and the proportion of IDUs receiving ART. The notable exceptions in terms of ART coverage in general are Brazil (ART coverage: 86%) and Thailand (ART coverage: 36%), although other countries with relatively few people in need of ART also achieved good ART coverage, such as Romania, Lao and Syria.

Scientific research has already identified that drug users have suboptimal access to and utilization of HAART and initiate HAART at more advanced stages of infection [21]. They also face special difficulties with regard to being prescribed ART due to some clinicians’ reluctance to prescribe ART based on an unjustified belief that IDUs might have a worse adherence to treatment that other subpopulation groups [18]. However, evidence suggests that, given the right conditions, IDUs and drug users benefit from ART as do any other individuals. Thus, in order to enhance adherence to ART it is necessary to ensure coordination and collaboration between treatment providers and develop pragmatic approaches to treatment and care. Equally, however, services to drug users living with HIV/AIDS should not be contingent upon a drug user’s agreement to enter drug treatment programme and that ART should not be withheld or refused simply because a person with HIV/AIDS is or was an IDU. Overall, treatment and care for IDUs living with HIV/AIDS must be adapted to the needs of the drug user and, where needed, they should be offered assistance to adhere to ART [27,28].

By the time this paper is completed the ‘3 by 5’ will be entering its cut-down period, and although some progress has been made in the scale-up of the treatment during the first 6 months of 2005 (300 000 more people in ART since December 2004 [29]), as the region with the largest increase in ART has the smallest IDUs populations—Sub-Saharan Africa—it is unlikely that the availability of ART for IDUs has changed substantially.

The ethical significance of this apparent discrimination against IDUs receiving ART is complex. According to WHO–EURO region, only Russia has some certain formal exclusion criteria for active drug users. In the remaining countries of its catchment area, IDUs are not officially excluded from access to ART because of their drug-using status. However, in practice there is significant reluctance among ART providers to start ART for active drug users in the absence of substitution treatment as key support to adherence among IDUs. Data from Ukraine shows that uptake of ART among IDUs themselves is much lower than among non-IDUs HIV-positives. WHO considers the absence of wide-scale substitution maintenance programmes as the main obstacle to higher coverage of IDUs with ART. We recommend that international aid agencies could assist in providing guidelines, training and infrastructure for delivering ART for those countries where no or proportionally little ART is provided to IDUs.

It might be possible to construct a public health case for prioritizing some PLHWA to receive treatment over others [30,31]. For example, if for resource or logistical reasons IDUs are harder to reach than (for instance), pregnant women, a rational decision about the most efficient use of ART resources could favour treating pregnant women under a programme for prevention of mother-to-child transmission (PMTCT). This would not discriminate against IDUs as such, so much as favour pregnant women who present for antenatal care. The apparent inequity would be explained by the desire to do as much good as possible in terms of lived saved with a limited stock of ART. However, we note that at least one country, Brazil, has sought to provide free and universal access to ART, which has estimated to have halved Brazil's AIDS mortality rate, reduced hospital admissions by 80% since 1996, significantly decreased mother-to-child HIV transmission and saved nearly $500 million from 1997 to 1999 [32]; Brazil could be upheld as a model for other countries to follow.

We are not aware of any explicit justification offered for under-treatment of IDUs, whereas it is plausible to explain the under-treatment of IDUs on the well-attested basis that IDUs are discriminated against routinely in other contexts, and that this discrimination applies as much to ART as to other contexts [33]. Furthermore, equity requires fair dealing with IDUs on the basis that they have as good a claim to ART as anyone else. To this extent—even if the goals of medicine and public health and the demands of efficacy and patient care may conflict—what is clear is that in the absence of any demonstrable public health rationale for differential treatment,
and any attempt to provide it in a transparent and accountable fashion, our presumption should be that discrimination is unethical and that patients’ equal right to claim treatment should be upheld, IDUs or not [34]. Therefore, we recommend that it is essential that exposure category data are collected on ART patients and HIV infected people in order to test and monitor the equitable distribution of this vital resource.

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