Appendix G: Methods used to derive estimates of regional and global numbers of IDUs and HIV positive IDUs

Estimates of the number of people who inject drugs:

A range of situations existed with respect to the amount of data available on the prevalence of injecting drug use or the number of people who inject drugs. The ways in which uncertainty was estimated around these estimates differed depending upon the amount of country specific data to hand (the calculated regional estimates and global total of the number of people who inject are presented in the paper):

1. Country-specific information available: If a country had a lower and higher estimate of IDU prevalence, the midpoint between these two estimates was taken. The exception to this was in countries where lower, mid and higher estimates were published (this was particularly notable in the case of the EMCDDA figures) in which case the three estimates provided were used.

2. One estimate of IDU prevalence (or IDU population size) available: in the situation where only one estimate of population prevalence or IDU population size was available, then the weighted global uncertainty limits around population prevalence were used. These were derived by estimating the weighted prevalence of low, mid and high IDU prevalence in countries where all three estimates were available (see #1 above). The amount of uncertainty (in terms of % variation less than and greater than the mid estimate) was estimated. For all regions with the exception of Sub Saharan Africa, this global % variation was then applied to each country where only one estimate had been derived in order to estimate an uncertainty range around the estimate. For those countries in Sub Saharan Africa where only one estimate of IDU prevalence was available the _regional_ % variation was applied; this was done to better reflect the much greater uncertainty around the observed estimates in that region.

3. No estimate of IDU prevalence (or IDU population size) available but IDU had been reported: In this instance, the weighted regional prevalence was used. The methods for estimating uncertainty ranges described in #2 above were used to estimate uncertainty bounds.

4. No reports of IDU were found for the country: In countries where no documented evidence of injecting drug use occurring could be located, we assumed zero prevalence of injecting. Given this comprised 11% of the world's population aged 15-64 years it is possible that the resulting global estimate of the number of injecting drug users is likely to be an underestimate by assuming that there are no injectors at all in these countries.

For each region, the sum of all country estimates (as derived above) and their ranges was made. The "global" estimate comprised the addition of all regional estimates.

Estimates of the number of people who inject drugs who may be HIV positive

A range of situations existed with respect to the amount of data available on the prevalence of HIV among those who inject drugs. The ways in which uncertainty was estimated around these estimates differed depending upon the amount of country specific data to hand (the calculated regional estimates and global total of the number of people who inject and who may also be HIV positive are presented in the paper):

1. Country-specific information available: If a country had a lower and higher estimate of HIV prevalence, the midpoint between these two estimates was taken. The upper and lower estimates were derived by multiplying the lower estimate of IDU population size by the lower estimate of HIV prevalence; and the upper estimate of IDU population size by the upper estimate of HIV prevalence.

2. One estimate of HIV prevalence available: in the situation where only one estimate of HIV prevalence was available, then the weighted *regional* uncertainty limits around HIV prevalence were used. These were derived by estimating the weighted prevalence of low, mid and high HIV prevalence in countries where low, mid and high estimates were available (see #1 above). The amount of uncertainty (in terms of % variation less than and greater than the mid estimate) was estimated. This % variation was then applied to each country where only one estimate had been derived in order to estimate an uncertainty range around the estimate. For, Australasia, the Pacific Island States and Territories and the Caribbean only single estimates of HIV prevalence were available. To estimate uncertainty bounds for these three regions the weighted *global* uncertainty limits were applied.

3. No estimate of HIV prevalence available: In this instance, with the exception of the Pacific Island States and Territories, the weighted regional HIV prevalence was used for all countries without an estimate of HIV prevalence but where injecting drug use reported to occur. For the Pacific Island States and Territories the combined weighted HIV prevalence for this region and Australasia was applied. The methods for estimating uncertainty ranges described in #2 above were used to estimate uncertainty bounds in all regions.

4. No reports of IDU were found for the country: In countries where no documented evidence of injecting drug use occurring could be located, we assumed zero prevalence of injecting and of HIV among people who inject drugs.

For each region, the sum of all country estimates (as derived above) and their ranges was made. The "global" estimate comprised the addition of all regional estimates.