

## Summary and conclusions

This study is the first to estimate the prevalence in Dutch prisons of behaviours that increase the risk of infectious diseases – HIV, sexually transmissible infections (STIs) and hepatitis B and C. The risk behaviours we investigated in prisons were tattooing, body piercing and genital beading<sup>21</sup>, drug and steroid injection, and consensual and non-consensual unsafe sex.

The purpose of the study was to clarify how widespread these health risk behaviours are in Dutch prisons and to identify ways to discourage such behaviours, thus enabling improvements to the disease prevention policies in the prison system. The research problem was to determine how many prisoners engage in acts that pose health risks to themselves or others, how frequently such behaviours occur, what determinants may underlie them and how they can be prevented. The problem was refined into ten research questions covering three broad topics: prevalence rates and prisoner profiles; prison contexts; and health promotion and risk reduction.

The main part of the study consisted of interviews with 380 adult males who had been in prison for at least three months, serving sentences of four months or longer. To recruit the interviewees we used a two-stage sampling model, first making a selection of penal institutions and then selecting prisoners within each institution. The interviews were conducted face to face, using semi-structured questionnaires that contained mostly pre-specified, but some open-ended, answer options. We also held focus group interviews with experts-by-experience and with professionals in the field of practice.

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<sup>21</sup> Beading is the implantation of small beads under the skin, in particular along the shaft of the penis. The beads (known in Dutch as *boegroes*) may be made from various materials, including dice, dominos, plastic or metal. In many cases, the genital beads implanted in prisons are self-crafted and sanded into a spherical shape.

### *Respondents*

The 380 respondents were male and had an average age of 36 years. The majority held Dutch citizenship. Less than half were of Dutch ethnicity. The largest ethnic minority group (one out of seven respondents) had Moroccan backgrounds. The respondents generally had rather low levels of education, with one in three having finished no secondary school at all and a further quarter a lower vocational school (VMBO). One third of respondents were in prison for the first time; nearly all others had previously served time in Dutch penal institutions (and some in other countries as well). Respondents had been in prison for an average of two years at the time of the interview and were serving sentences averaging 4.5 years. Three quarters had shared cells with other prisoners at some time.

### *Generalisability*

The data from and about prisoners were based on self-reports. All figures have been weighted to reflect the total study population, which in itself was a select population consisting solely of adult men serving relatively long sentences by Dutch standards. Figures can therefore not be generalised to the entire prison population.

### **Prevalence rates and prisoners' profiles**

This topic was addressed by four research questions: (1) How many prisoners engaged in behaviours that posed health risks in terms of infectious diseases? (2) What were the demographic characteristics of prisoners who actively carried out such acts and those who underwent them? (3) To what extent did prisoners perform or undergo such acts voluntarily and by personal choice? (4) Could at-risk groups be identified? The fourth question was addressed using regression analysis to determine whether the behaviours were associated with age, ethnicity (Western versus non-Western), education and type of imprisonment (closed versus semi-open or open).

### *Injecting drugs and steroids*

All in all, more respondents reported having injected anabolic steroids and/or psychoactive drugs outside prison than inside, and more had injected steroids

than drugs. Some 6.6 per cent had injected such substances at some point in their lifetimes, and 1.8 per cent during the 12 months preceding their current prison term. Only 1.3 per cent reported having injected steroids or drugs in prisons (two during their current term, but only one inside the prison itself). We found no indications for steroid or drug injection on a non-voluntary basis (under coercion from others).

### *Tattooing*

A slight majority of respondents had one or more tattoos. The average age at which they got their first tattoo was 18. About half had had all their tattoos applied by professional tattoo artists; the other half had had some or all tattoos applied by non-professionals (sometimes including themselves). A minority reported having been tattooed (or tattooing themselves) in a prison at some time; virtually all of them said this occurred in Dutch prisons (and some in foreign ones). On average, the last tattoo in prison was applied almost seven years previously, and almost always by the prisoner himself or another non-professional. Some 19 respondents reported having tattooed others in prison; in all but one case that was in Dutch prisons only.

### *Body piercing and genital beading*

More than one fifth of respondents had one or more body piercings; four times fewer had genital (penile) beadings. Relatively few reported having undergone piercings or beadings (or self-piercing or self-beading) whilst in prison. Although the numbers were too small for statistically reliable conclusions, it appeared that beading occurred slightly more in prison than piercing. A total of five respondents reported having performed piercings on other prisoners, and four had performed genital beadings.

### *Sex acts and sexually transmissible infections*

Approximately half of the respondents reported having a steady relationship, and one quarter of respondents received unsupervised visits. Leaving aside those visits, one tenth of the sample reported having performed sexual acts in prisons at some time in their lives, and one out of twenty respondents reported *unsafe* sexual acts (orogenital, anogenital or coital sex without condoms). Just under half the sample had had one or more sexual contacts during their current prison term (either in prison or on leave); the large majority of

contacts were with steady or regular partners, but some were with casual partners, prostitutes or prison staff.

Although most of the reported in-prison sexual acts, such as manual gratification, can be considered safe without condoms, unsafe acts without condoms also took place in prison. Some respondents, albeit a small percentage, had received treatment for sexually transmissible infections other than HIV in the past 12 months. Even if those infections took place outside prison, this is still a cause for concern.

### *Coercion*

Four respondents had had sex against their will whilst in prison (mostly abroad but also in the Netherlands); two of them said these contacts were unsafe (one reporting unprotected oral and one unprotected anal sex). 'Only' three respondents reported knowing of persons who had been tattooed against their will in Dutch prisons, and two of them were referring to the same fellow prisoner.

### *Demographic characteristics and groups at risk*

Injecting drugs or steroids was an activity engaged in (mostly in the past) predominantly by prisoners with Western ethnicities. Regression analyses showed age to be the sole factor associated with tattooing, and this applied only to the likelihood of getting tattooed during the *current* prison term: older respondents were less likely to have got tattooed. An ethnic factor emerged only for genital beading, in that predominantly (both in relative and absolute numbers) prisoners with Surinamese or Netherlands Antillean backgrounds had beadings. Respondents in closed prisons were four times more likely to have had piercings performed by non-professionals at some time in their lives. Respondents of non-Western ethnicities were four times more likely to have genital beadings; older respondents were significantly less likely to have them. The regression analysis further showed that none of the factors investigated was associated with the likelihood of having had unsafe sex in prisons.

### **Prison context**

Were the behaviours in question specific to the context of imprisonment, or did they also occur outside prison (research question 5)? None of the behav-

iours we studied in our sample occurred exclusively in penal institutions. Respondents were relatively less likely to have sex in prison (not counting unsupervised prison visits), compared to being involved in tattooing and, even more so, genital beading. Contributory factors for tattooing appear to be boredom and for genital beading the enhancement of status within certain ethnic male groups.

Based on the self-reported data from our sample, we made (weighted) prevalence estimates of the in-prison health risk behaviours practised by the population described above – adult males serving relatively long sentences in Dutch prisons. Table 12.1 summarises those findings. Except for sexual activities, the table compares the total prevalence rates of specific behaviours inside and outside prisons with the prevalences inside any prisons, inside Dutch prisons and during the current prison term. The prevalence estimate for lifetime unsafe<sup>22</sup> tattoos was by far the highest among the risk behaviours. The estimate for lifetime unsafe tattoos *whilst in prison* was about half as high, but still much higher than those for other in-prison risk behaviours. Unsafe tattooing during the *current* prison term was also more prevalent than other unsafe practices.

Unsafe sex in prisons followed tattoos at a considerable distance. Estimates for unsafe piercings and genital beadings were similar or slightly lower as compared to those for unsafe sex; in prisons, in contrast to the ‘free world’, beadings were apparently more likely to occur than piercings. Injection of drugs or steroids was uncommon both in and out of prison.

Our data do not allow for conclusions about peak phases of risk behaviour during prison sentences. Hypothetically, risk behaviour might be more common in the early phases of imprisonment as a result of stress, or it could increase due to boredom after longer stays in prison. Later studies might inquire how long respondents had been in prison when they engaged in particular behaviours.

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<sup>22</sup> Tattoos, piercings and genital beadings performed by non-professionals were defined as unsafe. For the lifetime injection of drugs or steroids, we defined the use of previously employed implements as unsafe; but we labelled all in-prison injection as unsafe by definition, in view of the greater risks of injecting within prisons (even though injectors usually used new implements).

**Table 12.1 Unsafe health behaviours in adult male prisoners three months or more in imprisonment**

	%			n		
<b><i>Tattoos by non-professionals</i></b>						
Lifetime unsafe tattoos	33.2%	±	4.2%	563	±	71
Unsafe tattoos in prisons	17.0%	±	3.3%	288	±	56
Unsafe tattoos in Dutch prisons	15.4%	±	3.2%	261	±	54
Unsafe tattoos during current prison term	5.4%	±	2.0%	92	±	34
<b><i>Body piercings by non-professionals</i></b>						
Lifetime unsafe piercings	7.0%	±	2.3%	119	±	39
Lifetime unsafe piercings in prisons	2.6%	±	1.4%	44	±	24
Lifetime unsafe piercings in Dutch prisons	2.1%	±	1.3%	36	±	22
<b><i>Genital beadings by non-professionals</i></b>						
Lifetime unsafe genital beadings	4.5%	±	1.8%	76	±	31
Lifetime unsafe genital beadings in prisons	3.8%	±	1.7%	64	±	29
Lifetime unsafe genital beadings in Dutch prisons	3.3%	±	1.6%	56	±	27
<b><i>Unsafe piercings or genital beadings in current prison term</i></b>	3.5%	±	1.6%	59	±	27
<b><i>Injecting drugs or steroids</i></b>						
Lifetime unsafe injection	1.6%	±	1.1%	27	±	19
Lifetime unsafe injection in prisons (incl. new needles and syringes)	1.2%	±	1.0%	20	±	17
Unsafe injection during current prison term (ditto)	0.3%	±	0.5%	5	±	8
<b><i>Unsafe sex (orogenital, anogenital or coital without condoms)</i></b>						
Lifetime unsafe sex in prisons	5.7%	±	1.9%	97	±	32
Lifetime unsafe sex in Dutch prisons	5.1%	±	2.0%	86	±	34
Unsafe sex during current prison term	1.6%	±	1.1%	27	±	19

## Health promotion and risk reduction

Within this topic we investigated respondents' knowledge of health risk behaviours, how such behaviours are manifested in prisons and how they might be prevented or curbed.

### *Knowledge of health risks*

We tested the prisoners' knowledge of health risks (research question 6) using a list of 15 statements. By and large, this revealed considerable room for improvement. On average, respondents answered two thirds of the statements correctly; only 5.5 per cent got all statements right. Knowledge about hepatitis was the poorest and knowledge of HIV was the least poor.

The most widespread misconception about sexually transmissible infections was the belief by half of respondents that STIs could be transmitted via someone else's toothbrush or razor blade. One in five respondents did not know what chlamydia was. Knowledge gaps about HIV mainly involved thinking that an HIV infection always produced symptoms, that a person could get infected by kissing an HIV-positive person and that infection could not take place via orogenital contact.

A remarkable number of respondents knew little or nothing about hepatitis. Relatively large numbers erroneously believed that hepatitis was not transmissible via toothbrushes, razor blades or oral sex, or that infection could occur via a swimming pool.

Regression analysis revealed that those with higher levels of education scored better on every single knowledge statement about health risks. The older the respondent, the lower the STI score and the total score. Respondents with Western ethnicities scored better on hepatitis knowledge and on total health risk knowledge. Respondents in closed prisons knew the least about sexually transmissible infections.

#### *Preventative resources and materials*

Three research questions focused specifically on whether measures were taken, or could be taken, to avoid contracting infectious diseases. What preventative resources or materials did prisoners believe were officially available in the prison to help avoid risk behaviours, and why did they, or did they not, make use of these (question 7)? What *informal* resources did prisoners employ to avoid infection (question 8)? Were prisoners alert to disinfection, and did they demand it (question 9)?

One third of respondents reported that disinfectants were not available in prisons, but another one third said they were easy or very easy to obtain. Availability could be perceived differently even within a single prison, perhaps due to different policies in different sections. In the month preceding the interview, more than one quarter of respondents had tried to obtain disinfectants, most of them successfully. Almost all of them used the disinfectants to clean their cells; three used them to clean a tattooing or piercing needle. Respondents in closed prison settings were more likely to have tried to get disinfectants; they found it more difficult to obtain them.

One half of respondents found it easy or very easy to obtain condoms; one third did not know how difficult or easy it was. Some respondents had tried to get condoms in the previous month, and almost all said it was easy. Condoms were used for sexual contacts only. In contrast to the disinfectants, respondents in closed prison settings found it easier to obtain condoms.

#### *Alertness and risk*

Tattooing was the most common single risk behaviour in the prisons, and virtually all combinations of risk behaviours we identified included tattooing. Although prisoners who applied tattoos did not always use new needles and fresh or clean ink, and previously used implements were not always sufficiently sterilised, it would appear that behaviours conducive to the spread of infectious diseases were relatively uncommon during tattooing in Dutch prisons. At the same time, the conditions under which the tattooing often took place (application by non-professionals, unhygienic materials) did boost the risk of infections, wounds and scars.

Although in-prison piercings and genital beadings were not always performed using new implements, and previously employed implements were not always adequately sterilised, behaviours that heightened the risk of infectious diseases in the total Dutch prison population were uncommon. Again, the conditions under which they took place (placement by non-professionals, unhygienic materials) did increase the risk of infections, wounds and scars.

Only tiny numbers of prisoners were found to have ever borrowed or lent syringes. Needle sharing in Dutch prisons appears to occur only on a very small scale.

#### **Risk knowledge and risk behaviour**

There was a marked lack of correlation between prisoners' knowledge of health risks and the prevalence of risk behaviours. Even when associations were found, they were also not always straightforward to interpret. For example, respondents who had received treatment for a sexually transmissible infection in the year preceding the interview scored higher on knowledge of STIs than other prisoners. That could be seen to indicate that they received educational information during or after their treatment, but it could also mean they deliberately took risks. Yet there was also evidence against the taking of

knowing risks, as respondents reporting unsafe sex during the current prison term showed a poorer knowledge of chlamydia.

Regression analysis indicated that the level of health risk knowledge had no added value in predicting the various risk behaviours in prisons. At the same time, greater knowledge about hepatitis was associated with having had STI treatment. An explanation for this 'illogical' finding might be that patients in STI treatment also received information on hepatitis.

### **Improving health education and disease prevention**

Our tenth and final research question focused on what information, support and services should be provided to discourage and curtail risk behaviour in penal institutions. What criteria do such provisions need to fulfil? What needs do prisoners express in terms of health promotion?

The findings on knowledge gaps suggest the need for more or better health education, particularly about hepatitis and chlamydia. Most respondents had been tested for hepatitis and/or HIV; one quarter had been tested for neither. Eight had reportedly tested positive for hepatitis C and one for HIV. On average, respondents had had their last test just over three years previously. In view of the lengthy prison sentences and the more or less regular practising of unsafe sex by some prisoners, more frequent hepatitis and HIV testing would seem entirely warranted in the interest of public health.

When asked whether they would use the services of a professional tattoo artist, piercer or genital beader if available in prison, half of the interviewed prisoners said they would use a tattoo artist, but almost no one a piercer and even fewer a genital beader. The interest in professionally applied tattoos was mainly, though not exclusively, shown by people who had previously had themselves tattooed in prison. Since relatively few respondents had ever had piercings or genital beadings in prison, the introduction of professional piercers or beadings in prisons would have little preventative effect, or it might even generate a new group of customers.

#### *Disease prevention policies in the eyes of practitioners*

In focus groups including prison staff members, we discussed preventative measures that would be feasible in practice settings. Their opinion was that tattooing was impossible to outlaw in prisons. Views were divided when it

came to inviting professional tattoo artists to work in prisons for a fee; some practitioners believed this could have positive effects on prisoners with concerns about health risks.

Since only a select group of prisoners had genital beadings, collective information does not seem necessary. An educational leaflet specifically designed for that target group might be warranted, however, and it could include information on the unpleasant aspects of penile beads for women with whom the men have sexual relations. An additional suggestion was to broach the subject of existing or intended genital beadings during prisoners' medical examinations.

Currently available information leaflets on health risk behaviour were generally thought to have little appeal to prisoners. Staff members offered many suggestions for improvement, and they believed the new Income, Screening and Selection (ISS) procedure had further potentials for health education and disease prevention, among them a mandatory 'STI lesson'. Rather broad support was expressed for a compulsory STI test for all new prisoners. Some practitioners also urged that more use be made of interactive media and closed-circuit television channels which prisoners could access in their cells.

## **Conclusion**

All the behaviours we investigated were found to take place in Dutch penal institutions, even though they are officially not allowed there. Since people in prisons have less ready access to hygienic materials and means of disinfection than those in the 'free world', there is a heightened risk of contagious diseases, infections, allergic reactions and wounds.

Prison staff acknowledge that health risk behaviour cannot be fully curtailed. That is especially true of tattooing. A key dilemma here is that more 'lenient' policies, such as inviting professional tattoo artists to work in prisons, might encourage behaviour that prison staff would prefer not to see in prisons at all. Another dilemma is health education. On the one hand, prisoners show many gaps in their knowledge about infectious diseases, in particular about hepatitis. Some even have patently false ideas, such as that men cannot contract chlamydia. At the same time, we found almost no positive statistical associations between levels of knowledge and safer behaviour. We should caution, though, that our method was not suited to determine the real causality of any

associations between health knowledge and risk behaviour; we recorded respondents' knowledge at the time of the interview and correlated it with behaviours or infections with diseases that would have occurred at an earlier point in time.

Although knowledge of health risks is no guarantee for safe behaviour, it does form a precondition for it. As long as prisoners are unaware of facts such as that tattooing can transmit highly contagious diseases like hepatitis C, they will be less inclined to take appropriate safety measures.