A B S T R A C T

Since 1995, Corrections Services Canada (CSC) has conducted randomized urinalysis screening of a minimum of 5% of the federal inmate population on a monthly basis. Urine samples are screened for a broad range of psychoactive substances. The stated purpose of such screening is to reduce substance use in federal jails. Analysis of data provided by CSC for testing between 1994 and 1998 reveals small but statistically significant increases in the percentage of all urine samples that tested positive over that time. Analysis of the results of screening for opiates, cocaine and THC from data provided by CSC for the same time period, shows steady rates of opiate and cocaine detection at maximum and medium levels of security, decreases in opiate and cocaine detection in minimum security, and statistically significant increases in THC detection at all levels of security. The implications of these findings are discussed.

A B R É G É

Depuis 1995, chaque mois, le Service correctionnel du Canada (SCC) procède à des analyses d'urine prélevée de façon aléatoire sur 5 % au moins de la population carcérale détenue dans les prisons fédérales. Les analyses des échantillons d'urine ont pour objet de détecter toute une gamme de substances psychoactives. Le but officiel de ce dépistage est de réduire la toxicomanie dans les prisons fédérales. L'analyse des données fournies par le SCC pour les tests effectués entre 1994 et 1998 révèle de petites bien que statistiquement significatives augmentations du pourcentage d'échantillons positifs. L'analyse des résultats des tests de détection des opiacés, de la cocaïne et du THC à partir des données fournies par le SCC pour la même période révèle des taux stables de détection de ces substances dans les établissements de sécurité maximale et moyenne, des baisses des taux de détection des opiacés et de la cocaïne dans les établissements de sécurité minimale, et des augmentations statistiquement significatives de la détection du THC dans tous les établissements. Cet article analyse ces résultats.

Drug Testing in Canadian Jails: To What End?

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High-risk needle sharing continues to fuel the HIV epidemic among IDUs in Canada. As elsewhere, subpopulations of IDUs have been identified as requiring special attention.[1,2] One such population of IDUs is found in the Canadian prison system. In one study,[3] 38% of female prisoners and 26% of male prisoners in a Quebec jail reported injecting drugs before they were incarcerated, 11% of these women and 2% of these males injected while in jail, and most of these reported sharing needles.

Drug use has long been recognized as an unwanted factor in prison life and injection drug use has been identified as a particularly high-risk activity for prisoners.[4,5] Recommendations to reduce risk of harm have included the distribution of needle and syringe cleaning kits and the implementation of needle exchange programs.[6,7]

Corrections Services Canada (CSC) have responded to the problem of drugs in jails with education, limited bleach distribution, and recently the addition of methadone maintenance therapy. The primary response, however, has been focussed on interdiction. Testing prisoners for drugs has been a part of the CSC response since 1985.[8]

The Corrections and Conditional Release Act of 1992 permits a broad range of testing programs for inmates and parolees. In addition to acting as a monitor for inmates on drug treatment programs, random urinalyses are also intended to act as a deterrent to drug use in the general population. It has been argued that while such drug testing is a violation of privacy, such an invasion would be justified as a reasonable measure were it to attain its objectives of decreasing both drug use and the violence that is said to accompany it.[9] In 1995, an Appeals Court judge agreed with this reasoning stating, "Moreover, as a deterrent to drug use and the violence associated with it, random urine testing constitutes neither an unreasonable diminution of inmates liberty or privacy or the integrity of their persons."[8]

Objections to the program of random testing were raised by, among others, the Privacy Commissioner of Canada, the Expert Advisory Committee on AIDS in Prisons, and the Canadian HIV/AIDS Legal Network.[10] These groups voiced a broad public health concern that the institution of testing would result in prisoners changing their drug ingestion patterns from drugs that can be detected long after use, like marijuana, to those with shorter excretion times, that are detectable for only a short period, like heroin and cocaine. Such a switch would be expected to result in an increase in shared injection equipment with an accompanying rise in HIV and other infections. Such outbreaks are well documented.[11]

Similar concerns over the impact of drug testing have been raised in other jurisdictions, and reports from Britain[12] suggest that not only does random drug testing not deter drug use, the results may in fact underestimate opiate use by a factor of 3.[13] The potential for adverse effects of testing and concerns over the lack of appropriate statistical interpretation of testing results have been raised in Britain, virtually from the testing program's inception.[14]

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Sporadic urinalyses have been occurring in Canadian federal jails since 1985. Following the successful defense against an inmates' charter challenge (Fieldhouse vs. The Correctional Service of Canada) CSC, in the fall of 1995, implemented a standardized drug screening program on a monthly minimum of 5% of the inmate population in all provinces in Canada.[8]

The Correctional Service of Canada Urinalysis Testing Program (performed by MAXXAM laboratories in Toronto) is reported as being in compliance with the Canadian Standards Council Laboratory Accreditation Program for Human Drug Testing. Confirmatory testing uses Gas Chromatography/Mass Spectrometry (GC/MS). "Cut off levels" for screening and confirmatory tests are reported as having been "established at levels that are beyond the realm of accidental or incidental ingestion."[8]

Urines are screened for a range of substances – Alcohol, Amphetamine, Benzodiazepines, Cannabinoid, Cocaine, Fluoxetine, Hydromorphone, LSD, Meperidine, Methylphenidate, Opiates, Pentazocine, Phencyclidine, and Volatiles. Details of collection protocols and cut-off levels for screening and confirmatory tests are found in CSC Commissioner's Directive 572.

In December of 1997, CSC released a report, "A Five Year Review" of the Urinalysis Testing Program."[8] This report, which is available from CSC, presents data from urinalyses from 1993 to 1996. Our analysis has excluded the 1993 data as they predate the standardized testing program. We have also included additional data provided by CSC Security Division for 1997 and part of 1998 in our analyses of overall drug test positivity and sub-analyses of detection rates of opiates, cocaine and THC.

TABLE I
Percent Positive Drug Tests by Security Level (Volume of Tests)

Security Level	1994	1995	1996	1997	1998	Chi sq.	p-value
Maximum	11 (189)	8 (679)	8 (679)	13 (903)	11 (584)	15.8	0.003
Medium	16 (279)	10 (1344)	12 (2828)	14 (4222)	15 (2947)	26.35	<0.001
Minimum	6 (35)	10 (164)	5 (427)	10 (1066)	11 (835)	14.6	0.005
Total	11 (521)	10 (2187)	10 (4405)	13 (6342)	13 (4523)	36.69	<0.001

TABLE II
Percent Positive Drug Tests by Type of Drug and Security Level (Volume of Tests)

Maximum Security	**1994**	**1995**	**1996**	**1997**	**1998**	**Chi sq.**	**p-value**
Cocaine	15 (480)	17 (706)	19 (1189)	3 (239)	5 (301)	3.2	0.5
Opiates	20 (485)	21 (695)	24 (1188)	15 (239)	21 (301)	2.23	0.69
THC	44 (486)	43 (709)	40 (1183)	64 (239)	62 (301)	46.16	<0.001
Medium Security	**1994**	**1995**	**1996**	**1997**	**1998**	**Chi sq.**	**p-value**
Cocaine	12 (183)	4 (625)	5 (940)	3 (1849)	3 (1439)	4.7	0.31
Opiates	17 (182)	15 (720)	13 (992)	17 (1849)	17 (1439)	1.44	0.8
THC	48 (188)	65 (705)	71 (1018)	68 (1849)	72 (1439)	29.2	<0.001
Minimum Security	**1994**	**1995**	**1996**	**1997**	**1998**	**Chi sq.**	**p-value**
Cocaine	7 (71)	9 (111)	5 (160)	5 (348)	3 (365)	29.2	<0.001
Opiates	10 (70)	19 (79)	11 (164)	8 (348)	9 (365)	29.2	<0.001
THC	69 (68)	55 (80)	71 (162)	79 (348)	80 (365)	17.62	0.001

METHOD

These data were subjected to statistical analysis to determine whether drug detection, and hence inferentially drug use, has diminished over time. The proportion of positive drug tests are presented in an ordered format by year and security level. Thus statistical analysis includes comparison of proportions over time using Chi square for trend testing. Statistical testing was performed using EpiInfo version 6.04b.

RESULTS

Table I shows the results of the overall proportion of drug tests that were positive in each level of security from 1994 through 1998. Slight but statistically significant increases in the percentage of all drug tests that were positive are evident at each level of security. These data are presented graphically in Figure 1.

The trends in percent positive drug tests by security level and drug type are presented in Table II. At all levels of security, positive drug tests for THC have increased significantly over the period 1994 to 1998. In minimum security only, there was a significant decrease in the use of cocaine and opiates over the same time period. There was no statistically significant change in the percentage of positive drug tests for cocaine and opiates in the maximum and medium security levels.

DISCUSSION

For the purpose of this discussion we make two *a priori* assumptions: 1) that detection of drugs reflects drug use in federal prisons; and 2) that testing procedures have been consistently applied as per Commissioner's Directive 572 over the years reported on. As CSC are making the same assumptions and reviewing the same data when they review their policy options, our approach seems justified.

Cannabis, as THC, is the most commonly detected drug in all three levels of security. Opiate detection consistently amounts to between 10% and 21% of all positive samples, and rates of detection are stable over time, with highest incidence in maximum security and lowest in minimum. Cocaine detection fluctuates with diminished rates of detection and possibly use in 1997 and 1998. No consistent trend in cocaine or opiate detection is demonstrable over the five years of testing. However, rates of both cocaine and opiate detection showed steady increases in maximum security institutions between 1994 and 1996. This trend was noted by CSC in 1997 with a subsequent recommendation that "the service will have to concentrate on seizing cocaine and opiates in institutions and offering more intensive substance abuse programs for those addicted to these expensive and very problematic drugs."

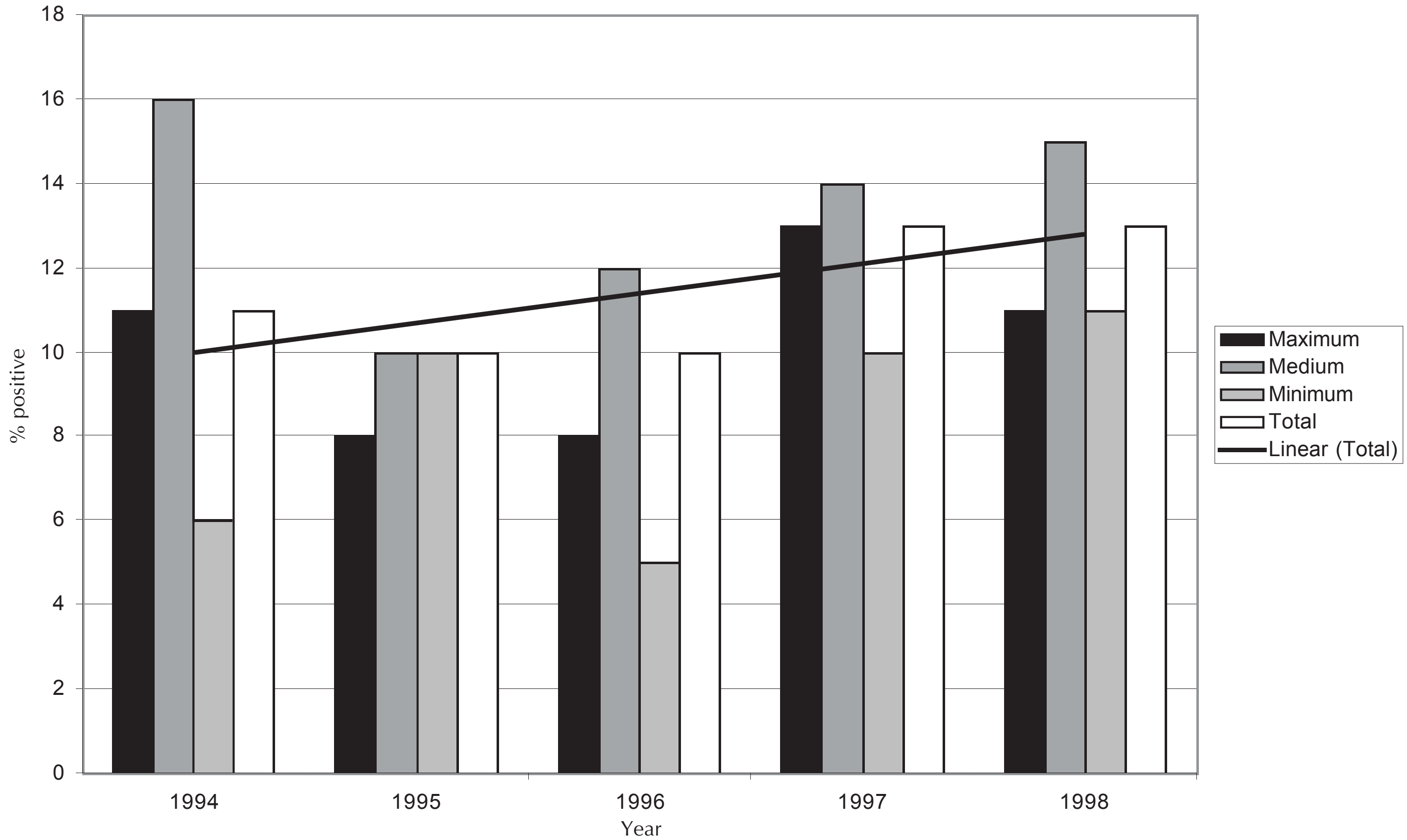

Figure 1. Positive Drug Tests

CONCLUSION

It is, on the basis of this analysis, highly questionable whether the program of random inmate urinalysis has reduced drug use in federal prisons. Our own view is that the urinalysis program has failed to meet the test of reducing drug use and we note that recent media reportage does not support decreases in the incidence of reported violence in prisons.[15] Although the feared shift in use from slowly excreted drugs like marijuana, with little public health risk, to rapidly excreted drugs like cocaine and heroin, with serious public health risks, is not evidenced by the results reported here, the potential to encourage harms through a switch to more dangerous drug use still exists. Given this continuing risk and the absence of evidence of benefit, we recommend that CSC halt routine random urinalyses and instead reallocate the $2 million spent on annual testing (Judy Keravel estimate, personal communication, 1998) to enhanced addiction information and treatment programs. In addition, CSC should reconsider its current ban on needle exchange programs in prisons in light of favourable evaluations of such programs in Europe.[16]

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