



Mental Health and Substance Use Problems in Prisons

**The Bangalore Prison Mental Health Study:
Local Lessons for National Action**



Executive Summary

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in collaboration with:



Karnataka State Legal Services Authority, Bangalore

and



Department of Prisons, Government of Karnataka

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EXECUTIVE SUMMARY

Background

World over, it has been established that prisons have a high prevalence of mental health and substance use problems. Estimates from different countries suggest that the prevalence of mental health problems in prisons is three to five times higher than in the general population. The World Health Organization in 2008 noted that of the nine million prisoners world-wide, at least one million suffer from a significant mental disorder and even more suffer from common mental disorders such as depression and anxiety. There is often co-morbidity with conditions such as personality disorder, alcohol and drug dependence. Mental disorders and substance use (tobacco, alcohol and other drugs) may either be present prior to prison entry or get exacerbated in prison.

Health problems in Indian prisons have not been systematically studied. Islands of information suggest that prisons in different parts of the country have HIV prevalence four to eight times higher than the general population (1.76-6.9% in prison compared to 0.36 in the community). The Human Rights Watch Report 2001 suggests high rates of tuberculosis in India. However, physical health problems among prisoners in India has not been systematically studied or addressed.

Mental disorders and substance use in Indian prisons

The knowledge of mental health and substance use problems in Indian prisons is even sparser. A retrospective review in 1996 of files of inpatients referred to the National Institute of Mental Health and Neurosciences (NIMHANS) from the Central Prison, Bangalore over 12 decades, suggested that a significant number were diagnosed as having a serious psychotic disorder, namely schizophrenia.

A collaborative study between NIMHANS and the National Commission for Women in 1998 examined mental morbidity among women in the Central Prison, Bangalore and found high levels of mental distress (unhappiness, worrying, thoughts of worthlessness, poor sleep and appetite). A report from Tihar Jail, Delhi, found that 8% of new entrants had drug abuse. Apart from a few such reports and anecdotal information, there has been no systematic study of mental disorders and substance use problems among prisoners in India.

THE BANGALORE PRISON MENTAL HEALTH STUDY

This was a collaborative project between the National Institute of Mental Health and Neurosciences, Department of Prisons, Government of Karnataka and the Karnataka State Legal Services Authority. The objectives of the study were to:

- a. Estimate the prevalence and patterns of major and minor psychiatric morbidity and substance use in the Central Prison Bangalore
 - b. Assess the mental health needs of prisoners
 - c. Prepare a response in conjunction with the service providers in prison
 - d. Conduct training for the prison staff to recognise and develop systematic interventions to address mental health issues
 - e. Develop minimum guidelines for mental health care of the prisoners which can serve as a blueprint for all the prisons in the country.
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METHODOLOGY

The Assessment included administration of the following questionnaires:

1. Socio-demographic questionnaire
 2. Life Style Questionnaire to capture details of lifetime use and use in the year prior to imprisonment of substances including tobacco, alcohol (using the World Health Organization AUDIT questionnaire) and other drugs, gambling, high risk sexual behaviour.
 3. MINI Plus interview schedule to assess mental health morbidity
 4. Needs Assessment Questionnaire
 5. General Health Check
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The study was conducted after formal approval by the NIMHANS Ethics Committee.
It was carried out in three phases:



Phase I

Stage 1: Assessment of prisoners (n=5024) in Parappana Agrahara (Central Prison) Bangalore on a structured instrument for mental health morbidity after informed consent

Stage 2: Anonymous urine screening of the prisoners with strict confidentiality regarding test results



Phase II

Stage 1: Development of a brief screening tool for assessment of mental illness in the prison population

Stage 2: Mental health training programme for the prison staff in early identification and treatment of mental health problems

Stage 3: Assessment of Mental health morbidity of prison staff at the Central Prison, Bangalore



Phase III

Stage 1: Development of guidelines for the assessment and management of mental health and substance use problems in prisons

Stage 2: Preparation and dissemination of the findings of the project.

Components of the evaluation included:

- Personal interview with all the prisoners to assess mental health morbidity including substance use as well as perceived needs in prison
- Anonymous random urine screening of UTP and CTP prisoners as well as new entrants
- Cross-sectional health screening of a randomly selected prison sample with checking for urine sugar and protein, breath carbon monoxide as a proxy indicator for smoking and breath alcohol estimates
- A similar exercise was also conducted for the prison staff.

FINDINGS OF THE STUDY

A brief profile of the prison population

- There were 5200 prisoners during the period of conduct of the study (2008-2009) as against an approved capacity of 2100, indicating 248% occupancy rate. 5024 prisoners were interviewed for the study.
 - A majority of the prisoners (65.4%) were Under Trial Prisoners (UTPs).
 - Undertrials were mostly males, in their late 20's, a majority single (53.7%) or married (41.4%) and two-thirds were from urban area while one in four was from a semi-urban background. One in five UTPs was illiterate or had only informal education.
 - Convict prisoners were older, a substantial number were married (73.8%) and a majority were from semi-urban background (59%). Nearly one in four (23.4%) convict prisoners was illiterate.
 - Approximately 15% of both UTP and convict prisoners were educated upto pre-university or higher.
 - Most UTP and convict prisoners were employed prior to imprisonment.
 - A third of UTPs (33.5%) and a higher proportion of CTPs (44.4%) reported family incomes below Rs 3000 per month.
 - A majority (86%) reported staying with their families prior to prison entry.
 - For a majority (80.4%), this was the first imprisonment.
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A brief profile of women prisoners

- There were 210 women prisoners (4%) at the time of conducting the study and 197 of them were interviewed.
- Women prisoners were significantly older (mean age 37.5 ± 14.4 years) compared to the men (30.4 ± 10.3).
- A majority of the women were undertrial prisoners (62.4%), were or had been married (92.3%) and among those who responded, all lived with their families prior to prison entry.
- 47.2% came from urban and 42.6% from semi-urban backgrounds.
- About one in five (22.5%) was a housewife, others were engaged in unskilled or semiskilled work (42%) or agriculture (14.5%).

General health status

- Self report of health problems was very low. The commonest problems reported were back or neck problems (16%), arthritis (14.7%), digestive disorders (13%) and skin disease (10.5%). Spontaneous self report of mental illness was as less as 2%.
 - Though only 3.6% of prisoners self reported a history of high blood pressure, on recording of blood pressure, 20.5% were found to be hypertensive thus increasing hypertension detection rates by five times.
 - About 5% of the resident prisoners and 4.5% of new entrants tested randomly had positive urine sugar. Only 3% reported a prior history of diabetes. Urine screening helped to double the diabetes detection rate in prison. The screened prevalence is probably representative of the prevalence of diabetes in the general population (3% in rural and 9% among urban populations). Proteinuria was identified in 4.6% of prisoners randomly screened and in 7.3% of the new entrants. This indicates the presence of renal dysfunction from diverse causes.
 - Nearly one in three prisoners was underweight with a BMI below 18.5. UTP were significantly more likely to be underweight (33.8%) compared to CTP(19.8%).
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- Among new entrants to the prison, nearly one in four was underweight (24.3%), and 17.6% were in the overweight category.
 - Approximately one in 10 resident prisoners could be classified as being overweight or obese. A higher percentage of convict prisoners were in the overweight/obese category.
 - Women prisoners face problems of both under and overnutrition with one in four being underweight and approximately a similar proportion, overweight or obese (26.3%), higher compared to 10.9% of male prisoners who are overweight or obese. While this probably reflects better food within the jail than outside, it raises important concerns about the lack of exercise in prison and a greater risk to non communicable diseases like hypertension and diabetes.
 - Data from the prison hospital suggests that there were between 4500 to 7000 consultations each month, and the most common consultations were for skin diseases (40%), and gastrointestinal problems (20%). In 10% of consultations, no diagnosis was made. Mental illness constituted 4% of monthly new referrals.
 - HIV seropositivity in 2008 was 3% which is much higher than seroprevalence figures for Karnataka at 0.69% (figure from NFHS 3 2005-2006).
 - On an average there were 18 to 30 deaths annually between 2007 and 2009. During this period, there were 9 deaths from suicide, mainly hanging.
 - In 2008, there were 38 deaths of male prisoners in custody, which translates to 7.3 deaths per 1000, more than double that in the general population (the annual death rate for men was 3.2 per 1000 for 2007), and much higher than in prisons in developed countries. Underlying causes recorded in these deaths were HIV (26%), cardiac causes (23%), cancer (17%), suicide (11%) and tuberculosis (9%). One death (3%) was recorded as being drug related.
 - As there has been no systematic screening for tuberculosis, it is not possible to comment on tuberculosis prevalence.
 - Only 196 respondents (3.9%) reported taking medication regularly at the time of interview. Only 13 of them were able to mention what medicines they were taking.
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Health Care in the Central Prison

Health care is provided largely through the prison hospital located within the prison premises

- There was only one psychiatrist for the entire prison of over 5000. Apart from this, the prison hospital had only 3 doctors (one physician, one dermatologist, one ophthalmologist) and 1 staff nurse, one lab technician, one x ray technician and 2 pharmacists. The four doctors saw all routine clinical referrals to the prison hospitals in addition to their own specialty referrals. They also run an inpatient service with 100 beds (this facility is usually overflowing with about 250 patients at any given time), provide health reports in response to court orders, co-ordinate medical retransfers across the prisons in the state, and provide emergency cover as needed. Thus, the ratio of medical doctors to patients was 1: 1300 at the time of the study. Contrast this with Australia where there are three full time professionals for every 100 prisoners in custody.
- The scarcity of human health resources makes it impossible to screen prisoners for manifest and latent health problems, which range from under nutrition to chronic conditions like hypertension and diabetes. A sample survey in the prison revealed that 5% of the urine samples were positive for diabetes and proteinuria was present in 4.6%. Screening was able to pick up twice the number of diabetics compared to self-report.
- Inadequate self awareness of illnesses among the prison population. This possibly reflects the low awareness in the general community.

Mental Morbidity

This section details mental health morbidity, substance use, including regular patterns of use which suggest dependence or addiction.

- According to the MINI psychiatric diagnosis, 4002 (79.6%) individuals could be diagnosed as having a diagnosis of either mental illness or substance use. Recent studies suggest similar rates of mental morbidity in diverse countries such as Australia (80%) and Iran (88%).
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- A large part of the mental morbidity is contributed by substance abuse and its related consequences.
 - After excluding substance abuse, 1389 (27.6%) prisoners still had a diagnosable mental disorder. Considering that only 2% of the prison population self-reported any mental illness, it can be understood that a systematic assessment improves identification of diagnosable mental disorder by fourteen times.

Tobacco Use

- 67.3% of the prison population reported ever using (lifetime) tobacco in some form in their lives. This is more than double the tobacco use prevalence in Karnataka (29.6%-figure for 2001).
 - 60.2% reported ever smoking tobacco and 14% ever chewing tobacco. 97% of those who smoked or chewed tobacco had been using tobacco in the year prior to prison entry.
 - Undertrial prisoners were significantly more likely to have ever smoked or chewed tobacco compared to convict prisoners. Undertrial prisoners had started tobacco use at a mean age of 18.3 years, and had been smoking for a mean number of 6.6 years. Those chewing tobacco had started at a mean age of 19 years and had been regularly chewing tobacco for 5.1 years.
 - Convict prisoners who smoked had initiated smoking at 20.4 years and had been smoking for a mean of 9.8 years. Chewers in this group had started chewing at 20.2 years and were regularly chewing for 7.5 years.
 - 17.9% of women prisoners reported use of tobacco in some form. This is marginally more than the prevalence of tobacco use among women in Karnataka (15.2%-figures for 2001). Chewing tobacco was more common among women (12.7%) compared to smoking (5.1%).
 - Among new male entrants into the prison, 74.3% reported using tobacco and 71.9% reported using tobacco during the month prior to prison entry.
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Tobacco use pattern after entry into prison

- Undertrials had increased their smoking from an average of 9.2 sticks per day before prison entry to 34.3 sticks per day in the last week in prison. Convicted prisoners had increased their smoking from 11.4 sticks to 44.9 sticks.
- Among those who chewed tobacco, UTPs had increased their use from 8.3 sachets prior to prison entry to 20.9 sachets in the last week in prison, and CTPs had increased consumption from 8.7 sachets to 10.8 sachets.
- Thus, smoking among UTPs and CTPs increased about four times after coming into prison. Chewing tobacco increased marginally among CTPs after prison entry and about two and a half times among UTPs.

Breath CO monitoring

- On breath carbon monoxide monitoring, which is a proxy indicator for smoking, 42.6% of the male prisoners tested (n=169) had CO levels of above 7 ppm indicating that they had recently smoked.

Alcohol use

- More than one in two prisoners (51.5%) reported consuming alcohol in their lives. This is nearly double the national prevalence of alcohol use (21%). Of those who reported ever drinking, 86% had AUDIT scores above 8 indicating harmful drinking patterns. Mean AUDIT score was 17 and was comparable between UTPs and CTPs. UTPs had started drinking alcohol at a mean age of 19.4 years and CTPs at a mean age of 21.4 years.
 - 43.5% of resident prisoners fulfilled diagnostic criteria for lifetime alcohol dependence and 14% for current alcohol dependence (in the year prior to prison entry). Current alcohol dependence rates in the prison population are nearly three times more than in the general population.
 - 3.7% of the resident prisoners reported alcohol use in the last week. However, on breath analysis of 169 male prisoners selected randomly, none was positive for breath alcohol.
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- Among new entrants, 58% reported ever use of alcohol and 51.9% reported use in the last month.
 - Among women resident prisoners, 3% reported ever using alcohol.

Other drugs of abuse

- 13% of respondent prisoners reported ever having used a drug apart from tobacco and alcohol. This was more commonly reported by UTPs (13.8%) than CTPs (10.5%).

Urine Drug Screening

A random urine drug screening was carried out on 721 resident prisoners in an anonymous manner. Of these, 442 (61.3%) tested positive for one or the other drug.

- Among those who tested positive:
 - 43% tested positive for benzodiazepines
 - 31% tested positive for cannabis
 - 15% tested positive for cocaine
 - 9% tested positive for barbiturates
 - 6% tested positive for amphetamines
 - 3% tested positive for opioids
- Nearly a third of positive urine sample were positive for two or more drugs.
- Generalising the findings among resident prisoners, urine testing revealed extraordinarily high levels of drug use (61.3%) compared to self report (1.5%).
- 325 consecutive new entrants were also screened for drugs by urine screening. 146 (44.9%) tested positive for one or the other drug. Among those positive:
 - 28.3% tested positive for benzodiazepines
 - 17% tested positive for cocaine
 - 13.2% tested positive for cannabis
 - 4.3% tested positive for amphetamines
 - 1.5% tested positive for barbiturates
 - 1.2% tested positive for opioids

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- On comparison of percentages of positive urine drug tests between resident prisoners and new entrants, the use of most drugs had actually increased after entry into prison. Thus, use of cannabis after prison entry had increased 2.3 times compared to use at the point of entry into prison, use of benzodiazepines 1.5 times, barbiturates 6 times, opioids 2.5 times and amphetamines 1.4 times. Cocaine shows a similar pattern both inside and outside prisons, with a slight decline of use, which can be attributed to its cost.

Expressed need for help for addiction

- Among substance users, 85% of smokers, 73% of tobacco chewers, 99% of alcohol users and 71% of drug users expressed the need for help in being able to give up using these substances.

Gambling

- About one in ten prisoners had indulged in some form of gambling during their lifetime. The commonest form was playing cards for stakes.

Other psychiatric illnesses

- 12.7% of resident prisoners had a lifetime history of major depressive episode and 9.1% had a current major depressive episode. This is twice the rate of the general population.
 - Two out of every 100 prisoners reported having attempted suicide sometime in the past and more than seven per 100 had deliberately caused injury to themselves.
 - About 2 to 3 UT prisoners out of every 100 is at risk of attempting self harm in prison. Of those who had made an attempt of deliberate self harm after coming to prison, 50% had made an attempt prior to coming to the prison. Thus past attempt at self harm should be identified as a risk factor for repeated self harm.
 - 2.2% of the prison population had a diagnosis of psychosis, primarily schizophrenia. This is twice that of the general population.
 - A substantial number of psychotic disorders (16.9%) were substance related.
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Excessive preoccupation with bodily symptoms

- A substantial number of both UTP and CTP prisoners had a lifetime and current diagnosis of somatisation. This diagnosis could be made in about 2 out of every 100 prisoners. Current diagnosis of a pain disorder was made in 272 (5.4%). In Asian cultures, manifestation of psychological distress through physical symptoms is relatively more common than in other cultures.

Antisocial Personality Disorder

- Thirteen for every hundred prisoners could be diagnosed as having a conduct disorder in childhood and UTPs were significantly more likely to have received this diagnosis compared to CTPs.
- Nearly fifteen for every 100 UTPs received a diagnosis of antisocial personality disorder. This is 7-8 times more than the general population.

Needs of Resident Prisoners

- The major areas of dissatisfaction were with the cleanliness (33%-44%), access to safe drinking water (38%), quantity (25%) and quality of food (59%) and with the visiting facilities (21%).
- One in two prisoners (50%) felt they were not treated with respect by the staff.
- More than a third (34%) found it difficult to access health care.
- Most prisoners (90.3%) did not attend any form of rehabilitation or occupational therapy.
- One in five prisoners (22%) was not aware of the legal charge against them.
- A majority (70%) did not get escorts to attend court proceedings regularly and 51% were unhappy with the pace of legal proceedings.

Prison Staff

- Prison staff (n=201) were interviewed with respect to their health, particularly mental health issues as well as their needs in the workplace.
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- A sizeable number (29.2%) was overweight. Symptoms causing moderate to high levels of stress included ulcer symptoms (97%), headaches (46%), worries (39%), aches and pains (34%), inability to relax (32%), depression and sadness (32%), tiredness (33%), anger/irritation (30%), reduced sleep (15%) and backache (18%).
 - A majority (81%) reported moderate to high levels of overall stress, attributed to personal safety concerns (82%), difficulties in managing prisoners (69%), family problems (40%), fear of suspension (39%), financial problems (38%), and fear of transfer (23%). 40% of the staff felt unappreciated by their superiors and of even greater concern is that 91% reported verbal abuse from their superiors and 12 % physical abuse.
 - The low staff morale is best exemplified by the fact that 28% had considered resigning from the job because of job stress. Though 18% of them reported specific physical problems only one staff was on regular medication. Though none of them reported having symptoms of mental illness, 11% could be diagnosed as having a lifetime major depressive episode and 5% a current major depressive episode.

IMPLICATIONS

The findings from the study highlight the high proportion of mental health problems among prisoners and the need for mental health care in prisons. There is also a need to sensitise and train the staff of the prisons ineffectively managing the prisoners, as well as identifying and responding to the mental health problems. Prisons can provide a corrective, rehabilitative role only if these concerns are adequately addressed. The recommendations of this project are relevant to prisons not only in India, but throughout the developing world. The local lessons can then indeed be translated into national as well as global action.

RECOMMENDATIONS FOR NATIONAL ACTION BASED ON THE LOCAL LESSONS

The findings from the study highlight the need for addressing the mental health care issues of prisoners and staff of prisons. Prisons can provide a corrective, rehabilitative role only if these concerns are adequately addressed. Major areas requiring action include the following:

1. **Proper evaluation and assessment of every prisoner upon entry** into prison, and a good system of documentation, with a focus on general health, mental health and substance use. This includes objective testing for substance use and referral for evaluation and treatment.
 2. **Attention to the general conditions in prison**, including overcrowding, cleanliness, potable water, quality and serving of food, adequate recreation particularly for women prisoners.
 3. **Improving mental health care in prison** through prompt and proper identification, sensitive handling with established protocols for crisis intervention, behavioural emergencies including psychotic behaviour and suicidal ideations, availability of adequate medications as well as psycho-social interventions, adequate rehabilitation measures, and specific attention to the aftercare needs of persons with mental illness (education about illness, engaging the family, vocational guidance, treatment compliance and monitoring) as well as non-treatment support, particularly for those without families (shelter, health care, social schemes).
 4. **Help to all prisoners to deal with the stress of prison** life through appropriate counselling, staff sensitisation, enhancing peer group and staff support, and by improving living conditions in the prison.
 5. **Addressing substance use problems in prison** through proper identification at entry, prompt referral for treatment, periodic screening of resident prisoners for drug use, ensuring strict policies for possession and use of substances in prison, encouragement for help seeking for addiction including appropriate medications and psychosocial support for detoxification, long-term abstinence and addressing of co-morbid physical or psychological problems.
 6. **Improvement of human and financial resources for running the prison**, including having adequate doctors, nurses, counsellors and prison staff to provide
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health care in a graded manner, from health education to inpatient care. This includes a minimum of 1 doctor for every 500 patients, and attending specialists including a physician, psychiatrist, dermatologist, gynaecologist and surgeon; 2 nurses for every 500 prisoners, 4 counsellors for every 500 prisoners, to provide integrated health, legal and lifestyle counselling and support; a 20 bed facility for every 500 patients. As the support from the State Health Departments has been very variable, creating a prison health corps along the lines of the army health corps to attend to all the health needs in custodial settings must be seriously considered.

7. **All national health programmes must be implemented in prisons.**
 8. **Prison staff training and addressing their needs** should focus on improving work conditions, improving staff morale and cohesion, better communication with prisoners and greater sensitivity to their needs. Special training in human rights and mental health issues is required. Such training is also required for other personnel not directly manning the prison, including the judiciary, lawyers and police. The Legal Services Authority and Human Rights Commissions are ideally poised to carry out such training in liaison with mental health professionals.
 9. **Other health problems in prison, both acute and chronic, both communicable and non-communicable must be adequately addressed.** This includes but is not limited to skin infections, cardiac and respiratory disorders, tuberculosis, HIV, other sexually transmitted illnesses, hypertension, diabetes, stress related symptoms, anxiety, depression, and affected persons must be encouraged to seek help for such symptoms.
 10. **Other needs of prisoners including legal and vocational needs and better interactions with families should be adequately addressed.** Support for this can be facilitated by active liaison with educational institutions such as law, social work and similar institutions.
 11. **Proper documentation** – computerized data base, regular surveillance of health conditions, health status records, pre-and post discharge records must be maintained meticulously.
 12. **Ensuring continuity of health care beyond the prison** is absolutely necessary if prisons should cease becoming reservoirs of infection and ill health. This is possible through effective education, screening, intervention, rehabilitation and monitoring.
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13. **Another vital area requiring attention is addressing the systemic needs.** These include:
- a. **Raising prison standards** to meet the prescribed UN standards.
 - b. **Setting up of a prison working group** for improving and monitoring health care in prisons, particularly from rights based perspective.
 - c. **Reduction in the prison population** through promoting alternatives to imprisonment
 - d. Ensuring an active **Board of Visitors.**
 - e. **Systematic training of all professionals** including judiciary, lawyers and police.
 - f. **Mandatory allocation of resources** for improving financial and human resources to prisons.
 - g. **Improvement in trial procedures** to reduce delays, reduce duration of incarceration and mental anguish.
14. Ensuring a good prison environment conducive to correction and rehabilitation thus becomes a joint responsibility of the prison department, legal services authorities, human rights commissions, governments, non-government organisations as well as civil society.
15. Serious consideration must be given to institute a National Institute of Correctional Services, under which umbrella health related prevention, intervention and research activities in correctional settings can be undertaken.

CONCLUSION

Prisons are the mirror of our society. Prisoners are from our community and they return to our community. Data from the study reports of high prevalence of mental health problems and substance use in prisoners. Suicidal attempts and deliberate self harm by the prisoners are immediate concerns. Prison health needs must be considered as a priority in public health and mandatory implementation of all the national health programmes inside the prison must be done. Providing intervention for communicable diseases, substance use, mental illness and high risk behaviour thus benefits both prisoners and the wider community and reduces the burden on a country's health system as a whole.
