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## HoPE (Health of Prisoner Evaluation): pilot study of prisoner physical health and psychological wellbeing

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# HoPE

(Health of Prisoner Evaluation)

Pilot Study of Prisoner Physical Health and  
Psychological Wellbeing

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Natalie Gately

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## Foreword

Prisons offer a unique opportunity to make positive interventions not only in relation to health issues but also to address the social determinants of ill health. Even with the limited knowledge we have had in regard to the health of WA's prisoners it is apparent that prisons concentrate patients with significantly greater levels of morbidity than most other environments. It is also apparent that this concentration of morbidity parallels deficits in housing, nutrition, employment, education and family structure and is multiplied dramatically by the blight of mental illness and drug and alcohol abuse. Western Australia is unequalled in the Western World in its incarceration rates of Aboriginal Australians, where inevitably these deficits are manifestly greater than for other Australians.

The HoPE study will bring an acknowledgement and greater understanding of the state of health not only of Western Australia's prisoners but also of the challenges facing those who are most likely to be incarcerated due to socio-economic and health factors.

Armed with that knowledge and understanding, progress to address the issues prior to offending must be a priority beside the creation of greater capacity within Prisoner Health Services.

**Dr Ralph Chapman – Director of Health Services  
Western Australian Department of Corrective Services**



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## Preface

The HoPE study has arisen out of a recognised need to have a regular assessment of prisoner health. The pilot HoPE questionnaire was designed to refine a comprehensive survey instrument, which eventually will be able to be applied on a statewide and national level every two years.

The results from the proposed ongoing research will provide information on trends of prison health, which will be able to be used to address both prisoner and community health needs.

The authors wish to acknowledge that the pilot study raised a number of issues outside those anticipated. These have been amended for future iterations of the survey.

One important consideration to acknowledge is that this is a 'self report' survey that reflects the views of the prisoners at the time of their interview.

It is acknowledged that when prisoners have concerns or comments there are multiple mechanisms by which these can be dealt with. These range from consulting with a peer mentor inside the prison to formal complaints to outside investigatory bodies such as the Ombudsman, the Corruption and Crime Commission and the Office of the Inspector of Custodial Services. The Policy Statement from the Administration of Complaints, Compliments and Suggestions (ACCESS) can be obtained from the Department of Corrective Services. The Department of Corrective Services Annual Report 2006/2007 also indicated that the Department received 362 prisoner grievances, all of which were resolved at Department level.

Finally, the information has been presented in graphic and tabular form and no inferences have been drawn or conclusions made by the authors.



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## Abbreviations

ACCESS	Administration of Complaints, Compliments and Suggestions
AHS	Australian Household Survey
AIHW	Australian Institute of Health and Welfare
ANCD	Australian National Council on Drugs
ATSI	Aboriginal and Torres Strait Islanders
BJMHS	Brief Jail Mental Health Screen
CJS	Community Justice Services
DCS	Department of Corrective Services
DCP	Department for Child Protection
DUMA	Drug Use Monitoring in Australia
ECU	Edith Cowan University
GRAMS	Geraldton Regional Aboriginal Medical Service
HoPE	Health of Prisoner Evaluation
NHMRC	National Health and Medical Research Council
NHS	National Health Survey
PCS	Prison Counselling Service
PSCE	post secondary correctional education
RARC	Research Applications and Review Committee (DCS)
REC	Research and Evaluation Committee (DCS)
SPSS	Statistical Package for the Social Sciences
TB	Tuberculosis
WA	Western Australia
WAAHIEC	Western Australian Aboriginal Health Information and Ethics Committee

## Summary

This project was initially created as a pilot study to survey the health of prisoners in Western Australia. The initial idea for the survey arose from an Australian Institute of Health and Welfare [AIHW] report, which stated that *“although there are numerous sources of information on prisoners’ health, they are fragmentary and have not been integrated... No national data collections currently exist [and] the collection of information about the health of prisoners remains sporadic, inconsistent and incomplete...”* (2006, p.24 ).

The report recognised that the identification of prisoner health issues at a state and national level is an important step in developing intervention programmes. Accordingly it recommended;

- the development of a regular national prisoner health survey, or consistent state surveys; and
- the regular reporting of national prisoner health indicator data.

The 2006 AIHW report additionally stated that *“information on the health of prisoners is necessary on several levels, primarily for monitoring, and meeting the health needs of this high-risk group. Good health information identifies areas for improvement, informs health service policy and planning, and allows assessment and evaluation of health care services and health policy outcomes.”* (p.3)

The HoPE questionnaire combines both mental and physical health in one survey, which has now been trialled in two maximum security prisons in Western Australia for males and females, being Casuarina Prison and Bandyup Women’s Prison. The survey numbers were managed to ensure that an adequate proportion of WA prison populations was maintained, with males, females, rural, metropolitan, Indigenous and non-Indigenous prisoners interviewed.

The questionnaire was constructed in such a way as to be able to provide information in discrete subject areas, which can both be separated to suit the needs of interested groups and be made available to agencies and bodies as a basis for their own further studies or for representations to funding bodies or healthcare providers.

The questionnaire included sections on;

- General health and wellbeing
- Dental health
- History of illness and vaccinations
- Exercise and injury
- Psychiatric and psychological history
- Suicide and self-harm
- Alcohol and gambling
- Contact with family
- Drug use and drug treatments
- Sexual behaviour and attitudes
- History of sexual assault, sexual abuse and sexual violence
- Smoking
- Tattooing and body piercing

Qualitative and quantitative responses were recorded throughout the questionnaire.

# WHAT IS HOPE?

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Pilot Study of Prisoner Physical Health and Psychological Wellbeing



## Introduction

The large and growing populations in Australian prisons present a strong challenge to public health (Australian Bureau of Statistics, 2004). Many prisoners have poor health (Hobbs, Krazlan, Ridout, Mai, Knuiman & Chapman, 2006), which consequently affects the health and wellbeing of the wider public as prisoners move into and out of the general community. Studies in this area are intermittent, and cover a range of correctional facilities in a number of states (Butler & Milner, 2003; Hockings, Young, Falconer & O'Rourke, 2002; Vic. Dept of Justice, 2003). However, they are neither consistent, nor are they repeated, and therefore no trends or comparable findings can be shown. Whilst the benefits of a sound evidence base for matters relating to both the wider public and special interest groups has been recognised both in Australia and internationally, prisoners as a group remain a notable omission. There is no consistent or regular state or national health monitoring of prisoners although they are recognised as a high-risk group (AIHW, 2006; Grau, 2001).

The studies that have been completed, however, support the contention that many prisoners also come from disadvantaged backgrounds, with Indigenous Australians being strongly over-represented (Kariminia, Butler and Levy, 2007). Furthermore, the Australian Institute of Health and Welfare reported on a range of studies which show that inferior prisoner health is manifested in conditions such as higher levels of hepatitis C and other communicable diseases, a range of mental health disorders, substance abuse of both illicit and licit drugs, and a range of chronic diseases (Australian Institute of Health & Welfare, 2006). This is also supported by the Winnunga Nimmityjah Aboriginal Health Service Report (Poroch, 2007).

The AIHW Report highlighted the state of prisoner health in Australia and the opportunities for intervention. It recognised that the identification of prisoner health issues at a state and national level is an important step in developing intervention programmes. Accordingly, it recommended;

1. the development of a regulation national prisoner health survey, or consistent state surveys, and
2. the regular reporting of national prisoner health indicator data.

Furthermore, the Winnunga Nimmityjah Aboriginal Health Service Report (2007) recommended that further studies be undertaken to address the lack of empirical data for Aboriginal prisoner health-related issues.

The HoPE pilot study addressed these recommendations and this report is based upon the findings of the study. The study created a framework that combined both state prisoner health surveys and standardised health questionnaires into the comprehensive Health of Prisoner Evaluation (HOPE) survey. It is anticipated that this study will form the basis of a regular and consistent national prisoner health survey.

## Background to Prisoner Health Surveys

The prison population in Australia has increased at a rate of over 40 percent between the decade of 1994 and 2004, despite a general population increase of only 15 percent (Australian Bureau of Statistics, 2004). But the small number of comprehensive prisoner health surveys that has been conducted in various states throughout Australia has been sporadic, irregular and incomplete (Grau, 2001).

The need to record and monitor the health of the general population is generally accepted and understood. Health care can be improved and developed by Governments that are informed of the current needs and trends of the Australian population and through community demand for accountability (AIHW, 2006). However, as prisoners are routinely excluded from most data-collection processes relating to the health and wellbeing of the general Australian population, prisoner health is often overlooked in government policy and decision making (AIHW, 2006).

As a result, there is no systematic assessment of prisoner health in Australia, although detailed datasets are available from some state-based surveys (Grau, 2001). The 2001 New South Wales Inmate Health Survey is currently the most comprehensive survey to have been conducted on prisoner health, with a similar survey conducted in Victoria in 2003 and other similar but less comprehensive surveys being conducted in other states (Grau, 2001). These surveys are examined below.

In 1996, the New South Wales Inmate Health Survey was conducted with the aim of providing an account of the general prisoner population in NSW and collecting information to assist in a detailed examination of the main areas pertinent to



prisoner health (Butler, 2001). A cross-sectional, random sample, stratified by sex, age and Aboriginality, was used to select 789 participants from 27 correctional centres throughout NSW (Butler, 2001). In NSW, approximately 9,500 people are incarcerated (Corporate Research, Evaluation and Statistics, 2008), so the 789 respondents represent a small percentage of the prison population (8.3%). This study found that, when compared with the health of the general population in NSW, the overall self-reported health of prisoners was poor in areas including chronic illness, recent health complaints, the mental health of female prisoners, and the general wellbeing of all prisoners (Butler, 2001).

A number of implications relating to the health care of prisoners were also identified, including the prevalence of drug use in prisons, a higher level of markers for viral hepatitis and other infectious diseases than those in the general community, and the unavailability of sterile injecting equipment to prisoners (Butler, 2001). This study suggested a need for healthcare planners to provide a continuum of care to prisoners from within prison and on release into the community (Butler, 2001). A limitation of the NSW survey, which is the most comprehensive prisoner health survey to date, is that average numbers of participants per correctional facility were relatively low and the results may not be able to be generalised for all prisoner populations. The HoPE Project ultimately seeks to gain funding support to aim for a higher number of interviewees per correctional facility in the interests of reliability and generalisability.

Butler and Milner (2003) administered an enhanced version of the 1996 survey in 2001, which included areas such as head injury, intellectual disability and mental illness (Butler & Milner, 2003). Rates of head injury in NSW prison populations were high, with 42 percent of prisoners having experienced unconsciousness or "blacking out" during their time in prison (Butler & Milner, 2003). Intellectual disability was also high, with 49 percent of prisoners determined either to have an intellectual disability or to be functioning in the borderline range (Butler & Milner, 2003). Approximately 46 percent of prisoners in the same study had been diagnosed by a doctor as suffering from a psychiatric problem at some point in their life (Butler & Milner, 2003). Approximately 20 percent of prisoners who were not currently receiving any psychiatric treatment or medication believed that they required treatment (Butler & Milner, 2003).

The study also included a referral decision scale for major depression, schizophrenia and manic depression (Butler & Milner, 2003). This scale was

designed to be administered by non-psychiatric staff and indicates a prisoner's need for further psychiatric assessment (Butler & Milner, 2003). Of the prisoners assessed, approximately 55 percent reached the referral criteria for major depression, approximately 30 percent required referral for schizophrenia, and approximately 20 percent reached referral criteria for manic depression (Butler & Milner, 2003). Although it must be noted that this scale has been designed to create false positives over false negatives, the results are indicative of a large number of undetected mental health problems within the prison system (Butler & Milner, 2003). Distinctions were made between the health issues of male and female prisoners, but the study overlooked comparisons between Indigenous and non-Indigenous prisoners – a recommendation made within the study for later studies (Butler & Milner, 2003) and an issue addressed in this current HoPE pilot study. Evidence provided by the NSW studies highlights the need for regular, systematic assessments to provide information for policymakers and healthcare organisations so that health issues can be addressed.

The 2002 Queensland Women Prisoners' Health Survey, undertaken by the Queensland Department of Corrective Services, was the first formal survey of the health status of Queensland prisoners (Hockings, Young, Falconer & O'Rourke, 2002). Its objective was to provide a comparison with the New South Wales prisoner health survey (upon which it was based) and to contribute to a national data collection on prisoner health (which still does not exist). The survey was conducted across all Queensland female custodial correctional centres, with a total of 212 participants - a representative sample of the Queensland female prisoner population (Hockings et al., 2002). The survey identified a need to conduct further prisoner health surveys in the future for both male and female prisoners nationwide (Hockings, et al., 2002). This HoPE pilot study has also addressed their recommendations.

The Victorian Health Status Study (2003), the first survey of the Victorian prison population, interviewed approximately 500 prisoners (15%) (Department of Justice, 2003). The results of this survey provided a rich database of information, enabling future planning to cater for more appropriate, needs-based services for prisoners (Department of Justice, 2003). In addition, the results of the survey were indicative of *"the prisoner population as an extraordinarily needy, unhealthy, and life-damaged cohort"* (Department of Justice, 2003, p.1). Prisoners reported a significantly higher level of hepatitis; asthma; depression; insomnia; dental problems; STDs; self-inflicted harm and injury; suicidal thoughts and attempts;

exposure to sexual, physical, and emotional abuse; and hospitalisation, than health reports for the general community (Department of Justice, 2003). As a result, Victorian prisoners were identified as being at the very high-risk end of the Victorian health spectrum and thus possessing distinct healthcare needs (Department of Justice, 2003). It was suggested that simply improving prison healthcare facilities to community standards would not necessarily be adequate given the extreme health concerns of prisoner populations, but rather that specially designed service provision may be needed (Department of Justice, 2003). The AIHW report (2006), the nation's authoritative source of information on patterns of health and illness, also identified that prisoners have special healthcare needs and therefore require greater understanding and attention.

These studies serve to highlight the health needs of prisoner populations. Each study has recommended ongoing surveying to reveal trends and provide an understanding of health issues. All studies have strongly recommended government intervention that will assist the health of prisoners and protect the community, to which prisoners ultimately return. This pilot study has addressed the limitations of previous surveys (through extensive consultation with their authors) and has support from the Western Australian Department of Corrective Services Health Division. It is the first part of a proposed ongoing national assessment of prisoner health, which has also gained support from other states' Corrections and Justice departments and from Aboriginal health bodies in Western Australia.

## Mental Health

A review of Australian prison health literature exemplifies the prevalence of mental health disorders amongst prison populations (Butler, Andrews, Allnutt, Sakashita, Smith & Basson, 2006). Research shows that prisoners have higher rates of mental illness than members of the general population, but there is no data at the national level that measures the levels of mental illness of prisoners (Ogloff, Davis, Rivers & Ross, 2007).

Butler, et al. (2006) conducted a meta-analysis in 2001 comparing the psychiatric morbidity of prisoners with that of the general community. Prison data was obtained in an earlier study over a four-month period from a sample of 916 male and female prisoners in the New South Wales correctional system, who were assessed within 24 hours of admission (Butler et al., 2006). This data was



compared with that taken from 8,168 general community respondents of the 1997 Australian National Survey of Mental Health and Wellbeing (Butler, et al., 2006). Mental illness was measured using the Australian National Survey of Mental Health and Wellbeing interview, and prevalence within a 12-month period of 18 mental disorders was compared between both populations (Butler, et al., 2006). Across all major diagnostic categories, the prevalence of mental disorders in the prisoner sample exceeded the occurrence in the community (Butler, et al., 2006). The overall incidence of any psychiatric illness was 80 percent for prisoners and 31 percent for the community (Butler, et al., 2006). The study did not identify the causes of the over-representation of psychiatric morbidity of prisoners (Butler, et al., 2006). Investigating these results at a national level would provide a greater understanding of the mental health status of Australian prisoners compared with the wider community. This HoPE pilot study seeks to address this.

## Drug Use

Research into drug use was conducted with 319 randomly selected male and female prisoners due for release in NSW within the two-month data collection period of the study (Kevin, 2005). The findings related to trends of offender drug-use prior to, and during, imprisonment and revealed that 17 percent of male participants injected drugs during their current term of imprisonment (Kevin, 2005). Furthermore, this study highlighted that imprisonment provides an opportunity for health care intervention with drug users, potentially improving post-release prospects (Kevin, 2005). A limitation was that it did not incorporate mental health measures for each respondent (Kevin, 2005). Therefore, an analysis and comparisons could not be made between the use of illicit drugs and the incidence of mental health disorders.

This research proved that injecting drug use occurs within prisons (Kevin, 2005). However, the Australian National Council on Drugs (2002) found that no Australian prison provided sterile injection equipment to prisoners. Some jurisdictions make bleach available to prisoners to be used to clean injecting equipment. However, whether bleach is an appropriate agent for cleaning injecting equipment in prisons is questionable (ANCD, 2002). This indicates a need for sterile equipment to be made available to prisoners nationwide (Butler, Boonwaat, Hailstone, Falconer, Lems, Ginley, Read, Smith, Levy, Dore & Kaldor, 2007; Dolan, 1996).

A study of 612 prison entrants from various prisons throughout Australia found, through questionnaires and blood testing, that 34 percent of participants had the

hepatitis C virus and 20 percent tested positive to the hepatitis B virus (Butler et al., 2007).

Another study found that 10 percent of prisoners injected drugs for the first time whilst incarcerated (Dolan, 1996). Therefore, the risk of the viruses being spread should be a major concern of prison authorities. In addition to the study conducted by Dolan (1996), the first comprehensive survey of prisoner health conducted in New South Wales in 1996 found that 69 percent of male prisoners and 64 percent of women prisoners reported sharing needles in prison (Butler, 1997). The literature clearly demonstrates that the health of prisoners is poor compared with that of the general community in all areas, but particularly in regard to infectious diseases (Butler & Milner, 2003). The sharing of needles is a problem for prison and health authorities, and there is a need to replicate these findings at a national level in order to create, and further enhance, a national dataset of prisoner health. This current HoPE pilot study addresses these issues and includes questions pertaining to drug use, first use, injecting and cleaning in its drug section.

### Sexual Health

The sexual healthcare needs of prisoners, although often overlooked, is still an important area of health and one that needs to be addressed within the prison population (Bennett, 2000; Butler, Donovan, Levy & Kaldor, 2002). Furthermore, it is essential that appropriate attention be paid to the sexual health of prisoners, as a high proportion of prisoners return as general members of the community once released from prison (Grau, 2001).

A quantitative study by Heilpern (2005) found that of the 300 male prisoners aged between 18 and 25 who were surveyed in New South Wales, 77 (26%) reported having been sexually assaulted in prison. The possibility of the under-reporting of sexual assault in prison was highlighted in a similar study by Butler, Donovan, Levy and Kaldor (2002), which found that two percent of male prisoners, of a randomly selected sample, reported being subjected to non-consensual sex, yet 30 percent of the sample reported being aware of sexual assaults of other inmates within a 12-month period. The findings from this current study were similar. Therefore, it recommends that this disparity warrants further investigation. Sexual assault within prisons needs to be examined at a national level in order to establish approximate assault rates and to implement measures to correct this. Heilpern (2005) recommended Australia adopt measures from the Prison Rape Elimination

Act 2003 implemented in the United States. The rates of sexually transmitted diseases amongst prisoners are much higher than among the general population (Heilpern, 2005), which means that prisoners' sexual behaviour has implications for the spread of sexual diseases to the general population once offenders are released back into the community.

In 1998, condoms were made available to male prisoners in Western Australia, with dental dams and condoms being provided to female prisoners in 2001 (Bennett, 2000). The introduction of such measures in Western Australia demonstrated an acknowledgement by healthcare policymakers and planners that good sexual health is an important issue for incarcerated populations. In NSW during 1999, 30,000 condoms per month were distributed to 7,250 male prisoners (Butler, Donovan, Levy & Kaldor, 2002). The uses of condoms (i.e. for purposes other than sexual relations) were not recorded and thus the above figures can only be read as an estimation of the amount of sexual activity occurring in prisons.

There is a paucity of academic papers on the subject of female sexual activity. Bennett (2000) conducted a small, informal set of interviews with female prisoners from Bandyup Women's Prison in Western Australia that focused on issues relating to sexual relationships in prison. She found that prisoners generally agreed that women who had formed sexual relationships in prison gave little consideration to either general contagious diseases or sexually transmitted diseases (Bennett, 2000).

A national measure of sexual behaviour in prisons is needed for both male and female offenders in order to improve sexual health services for inmates. This area cannot be overlooked without having severe implications for the health and safety of the wider community; consequently, this HoPE pilot study will address these matters.

## Indigenous Prisoners

Aboriginal prisoners represent approximately 22 percent of the total Australian prison population (Australian Bureau of Statistics, 2006; Krieg, 2006). In Western Australia, Aboriginal male prisoners represent 42 percent of the total prison population. These high levels remain a concern, as Indigenous Australians represent approximately 2.4 percent of the general population. In addition, Aboriginal offenders have higher rates of health problems in the areas of mental health; alcohol and drug dependency; hepatitis; diabetes; and general health



complaints such as asthma, back problems and poor eyesight (Kariminia, Butler & Levy, 2007; Krieg, 2006). This places an additional strain on prisoner health resources. In 2004-05, the Australian Bureau of Statistics conducted the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), measuring the health status of a sample of 10,439 remote and non-remote Aboriginal and Torres Strait Islander people (ABS, 2006). The survey determined that Indigenous members of the community also reported the most significant problems in the areas mentioned above (ABS, 2006). Although this survey indicated that Aboriginal health is not significantly poorer in prison than it is in the community, it must be highlighted that the NATSIHS included remote Aboriginal and Torres Strait Islanders who have minimal access to healthcare services.

Prison offers an opportunity to improve the health status of Indigenous offenders by addressing these issues and providing enhanced healthcare services to incarcerated offenders. The monitoring of Indigenous health in prisons at a national level will ensure that these health issues, which may affect the wider community as well as the offenders themselves, are addressed. This HoPE pilot study pays particular attention to issues relating to Indigenous health and has sought the support of Aboriginal elders and Aboriginal health bodies so that a comprehensive survey can be attained. This will provide meaningful data for policymakers and funding bodies.

### Post Release

It is widely held that the general health of prisoners is poorer than that of the wider community (AIHW, 2006; Poroch, 2007). There is also a lack of information about the general health problems of released prisoners due to de-identification of statistics (Hobbs, Krazlan, Ridout, Mai, Knuiman & Chapman, 2006). Hobbs, et al., (2006) recently completed a study that compared the mortality of and the use of mental health services and hospitals by released prisoners with that of the general population and identified risk factors associated with each of these. Participants included 13,667 persons who were incarcerated in Western Australia between January 1, 1995, and December 31, 2001 (Hobbs, et al., 2006). During this study, 531 ex-prisoners died: 481 while living in the community and 50 while in custody (Hobbs, et al., 2006). Findings from this study showed that ex-prisoners have a much higher risk of death, higher hospital admission rates and higher rates of contact with mental health services than the general population (Hobbs, et al., 2006). Hobbs, et al., (2006) also identified that further research is required to



detail the range of mental health problems of prisoners so that appropriate assessments can be made and ongoing support can be arranged for offenders once released. A national health survey covering areas of mental health would help to achieve this.

## Suicide / Self-Harm

Historically, suicide has been a leading cause of death in Australian prisons (McArthur, Camilleri & Webb, 1999). It occurs variously between 2.5 to 15 times more than in the general population (McArthur, et al., 1999). De Leo, Hickey, Neulinger and Cartor (2001), reported that for each suicide that occurs, five to six people are profoundly affected. Therefore, the high rate of suicide amongst released prisoners is an issue that is not only of great concern to prison authorities but also affects the wider community. This current HoPE study will monitor suicidal tendencies and thoughts, enabling mental health services to address this issue.

Measurements of self-harm among prison inmates indicated that for every suicide, there were 60 self-harm occurrences (McArthur, Camilleri & Webb, 1999). Some reports indicated that self-harm had become endemic in many correctional settings; however, very few studies to date have systematically examined prisoner self-harm (McArthur et al., 1999). This pilot study has examined self-harm by prisoners, furthering our understanding of this issue and enabling the future development of effective prevention and intervention programs, as well as assisting in identifying at-risk prisoners. Self-harm and suicide were delicate issues to broach in an interview with prisoners. Research has shown, however, that conversations about suicide with those individuals who are contemplating suicide has the effect of reducing the urgency of the ideation or the need to carry it out (Bongar, 1991). To examine the level of distress experienced by participants, each participant was asked his or her level of distress on a five-point Likert scale, where 1='not at all' and 5='extremely distressing'. Some found parts of the questionnaire to be embarrassing or mildly distressing; however, they did not want to terminate the interview. Furthermore, those who found the interview distressing commented that it was good to be able to talk about their issues. To ensure the safety of participants, a mental health professional was provided to debrief them. Interestingly, the reports from the mental health nurse revealed that prisoners found their interview to be a 'cathartic' experience that 'uplifted' them. For example, one participant commented that the interview was "better than a visit, because I get to talk about myself".

## Prisoner Health – Impact on the Community

Prisoner health information is important for both prisoners and the wider community. Prisoners form an unintended natural community in which problems such as poor mental health can be readily created and/or diseases can be transmitted (Grau, 2001; Poroch, 2007). Ill health will impact the wider community when prisoners are released (Grau, 2001). The most significant elements of this impact are the cost to the public health system as released prisoners start accessing public health resources, and the risk of transmission/infection to family, friends and the wider community. For example, a large proportion of prisoners in South Australia are incarcerated for short-term sentences of between three and six months (Krieg, 2006). Therefore, it is important to consider the health issues of both the prisoners and the wider community into which they are released (Quilty, Levy, Howard, Barratt & Butler, 2004; Stewart, Henderson, Hobbs, Ridout & Knuiiman, 2004). With the expansion of prison populations (Quilty et al., 2004), logically these health issues will only increase. Providing appropriate services for both prisoners and ex-prisoners can delay or prevent recidivism for some offenders, particularly offenders with a mental illness or drug and alcohol dependency issues (White & Whiteford, 2006).

Research in NSW in 2001 found that approximately 14,500 children under the age of 16 had experienced a parent being incarcerated during that year (Quilty et al., 2004). Further, it found that 60,000 children under the age of 16 had experienced parental incarceration at some stage throughout their life. This number represents 4.3 percent of all children in NSW and 20.1 percent of Indigenous children in NSW (Quilty et al., 2004). According to Kemper and Rivara (1993, as cited in Quilty et al., 2004), children who experience parental incarceration usually experience health, developmental and psychosocial difficulties. Therefore, improving the health status of incarcerated parents would ultimately improve the health outcomes for their children. This HoPE pilot study will provide the data to assist policymakers in areas such as child health and welfare.

## Conclusion

In summary, there is a significant lack of ongoing research and data on prisoner health needs. This dearth has been recognised by the Department of Corrective Services, which has wholeheartedly supported the HoPE research project. Ongoing planning and funding allocations are impacted by the lack of ability to make comparisons between prisoners in different states, as methodology is problematic

and health definitions differ between studies and between states. Moreover, there is no facility to identify health trends due to the lack of systematic and ongoing data collection. The regular and consistent administration of the HoPE questionnaire at a national level will eliminate the methodological concerns previously mentioned; and will develop a set of results which will lead to the identification of health trends of prisoners. The data collected will be advantageous in terms of informing governments and assisting with the development of plans to address the healthcare needs of prisoners. This current project piloted the HoPE questionnaire and provides a snapshot of prisoner health in a representative sample of Western Australian prisoners.



# THE STUDY METHODOLOGY

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Pilot Study of Prisoner Physical Health and Psychological Wellbeing



## Research Design

The HoPE pilot project sought to complete an audit of prisoner health in a small sample of Western Australian prisons. It made use of a self-report questionnaire modified in response to the problems identified in the New South Wales Inmate Health Survey by its author Associate Professor Tony Butler. This first phase aimed to construct a standardised instrument capable of being routinely administered on an annual basis across Australia. Previous research has indicated that there is no national health monitoring of prisoners, even though they are recognised as being a high-risk group. The prisoner population disproportionately includes a number of marginalised groups in Australian society, such as homeless people, the intellectually disabled, the mentally ill, injecting drug users and Aboriginal and Torres Strait Islander people.

The project was designed to fulfil three key tasks:

1. To develop a standardised instrument for use in the regular reporting of national prisoner health;
2. To complete a pilot prisoner health audit in a male and female Western Australian prison;
3. To provide useable information for government and major stakeholders.

The HoPE information that was collected measured different aspects of physical and mental health, and provides a baseline dataset to assist governments in the development of policy and evaluations around prisoner and community health.

## Ethical Considerations

The HoPE Project adheres to the ethical guidelines of the NHMRC. Its findings will contribute to knowledge of the health of Australian prisoners and will provide a tool to monitor prisoner health in all Australian jurisdictions. This will build a comprehensive and longitudinal baseline dataset. The HoPE Project received ethical approval from the Edith Cowan University Human Research Ethics Committee, which ensured the protection of the welfare and the rights of human participants in the research. HoPE also received approval from the Western Australian Aboriginal Health Information and Ethics Committee (WAAHIEC) and the

Department of Corrective Services Research Applications and Review Committee (RARC). All requirements of these committees were strictly adhered to.

The HoPE Project was supported by the Office of Aboriginal Health, the Western Australian Department of Health, the Greenough Regional Aboriginal Medical Service (GRAMS) and the Aboriginal Health Council of Western Australia. Their support and assistance during the development stages was invaluable. The intellectual rights in the HoPE Project will remain with Edith Cowan University; however, access to and use of the findings are encouraged and can be negotiated with the researchers.

## Participants

In order to determine the patterns of health across different genders, age groups, Indigeneity, prisons and sentence length, the research was conducted at Casuarina Prison (male metropolitan prison) and Bandyup Women’s Prison (female metropolitan prison). The selection criteria were based on a quota sample representing a cross section of the prison population by gender and Indigeneity.

	Indigenous	Non-Indigenous	Total
Female	21 (38%)	34 (62%)	55
Male	22 (24%)	69 (76%)	91
<b>Total</b>	<b>43 (29%)</b>	<b>103 (71%)</b>	<b>146</b>

The participant sample was broken into the categories of Indigenous/non-Indigenous because the percentage of Indigenous people in Western Australian prisons far exceeds the Australia-wide figure of 26 percent. At the time of the survey, prison numbers in Western Australia were 3,800 males and females, both metropolitan and regional, including approximately 1,450 male Indigenous and 100 female Indigenous prisoners, which represents 41 percent of the prison population. This in turn is far greater than the percentage of Indigenous people within the broader Australian community, which the Australian Bureau of Statistics 2006 census shows to be 2.3 percent. Therefore, the number of Indigenous respondents does not reflect their current proportion of prisoner populations.

This firstly can be explained by the number of ‘out of country’ and traditional Indigenous respondents in metropolitan prisons who were reluctant to volunteer for and participate in the project. The prison superintendents and peer support staff advised the interviewing team that the percentage of Indigenous respondents would be far lower than their percentage of the prison population. This was



initially the case. However, it was found that the number of Indigenous volunteers increased over the collection period due to the positive 'word of mouth' comments from the first groups of other inmate participants.

A further barrier was the lack of male and Indigenous interviewers. This was recognised as a limitation from the outset, but due to time constraints and this being a pilot study, it was not able to be addressed. Future data collection for the HoPE Project will address these major concerns, and will adhere more closely to representative figures by using a larger interview team that includes a trained group of local Indigenous interviewers.

Despite these limitations, the interview team was commended by the Aboriginal Peer Support Workers for engaging such a large proportion of Indigenous offenders. Furthermore, the researchers were congratulated on securing the participation of regional and traditional elders, who were not expected to participate at all.

Of those who reported being Aboriginal or Torres Strait Islander, 32.6 percent were from the metropolitan area and 67.4 percent were from regional areas. Although the two prisons in the pilot study were metropolitan prisons, when respondents were asked where they lived in the year before going to prison, 22.6 percent said they were living in regional or rural areas.

**Although the sample in this pilot study is not large and cannot be said to be generalised to the wider prison population, it was adequate to test the survey instrument, to gain understanding of the health issues for prisoners and to raise awareness among interested groups.**

## Materials

The materials included an introductory statement that explained the research and gained the participants' informed consent. A questionnaire was developed (in consultation with Associate Professor Tony Butler) and included a comprehensive list of questions examining topics such as:

- Socio-demographic profile
- Ethnic composition
- Family composition
- Physical health
- Mental health
- Sexual health, behaviour and attitudes
- Patterns of drug use
- Smoking history
- Tattoo history

Documents were prepared to justify the use of particular groups of questions or scales in the questionnaire. The questionnaire was specifically designed to address concerns about self-reported data. The interview technique was employed to overcome issues of language and literacy, to build rapport for sensitive questions, and to probe for more detailed answers (Fitzgerald & Cox, 2002). The questionnaire also asked a variety of closed and open-ended questions in order to allow the participants to expand their answers on areas of importance to them. Individual, step-by-step question specifications were developed to train interviewers. This is the basis for the development of all future training.

## Procedure

The interviews were conducted by an experienced forensic interview team. This team was carefully selected from an existing pool of experienced interviewers currently used by the researchers in the Drug Use Monitoring in Australia (DUMA) Project at the East Perth Watchhouse. Training in the HoPE questionnaire was provided by the principal researchers. To maintain cultural sensitivity and awareness, extra training was provided by Mr Joseph Wallam – Community Liaison Officer at the Office of the Inspector of Custodial Services.

The procedure involved the interviewer explaining the research and inviting the potential respondent to participate. Verbal informed consent was obtained and respondents were advised that they were free to withdraw at any stage and could skip any questions they did not wish to answer. No monetary incentives were offered.

The process of interviewing the detainee involved the Liaison Officer bringing the person from their work area to the interview area. Once agreement had been obtained, the interviewer explained the study and answered any questions. When inviting prisoners to participate, an explanation was given that allowed the interviewer to:

- Stress the confidentiality of the study;
- Display courtesy to the respondent;
- Inform the participant that it was a University funded study;
- Explain that they were professional interviewers who did not work for the prisons, and that no identifiable information would be shared with the prison staff or any other agent of the criminal justice system;
- Inform the participant that the purpose of the study was to identify the health issues of people in the prison system;
- Inform the participant that they were free to withdraw from the study at any point in time;
- Answer any questions the participant may have had.

If the participant then gave informed consent, the interview proceeded. Informed consent was demonstrated through participation in the interview. Verbal consent was preferred due to diversity in language and literacy and the fear of identification through signatures. The interview was conducted in a secure and confidential room in the prison. As each interview was approximately 75 minutes in length, each participant was offered a drink and a biscuit.

## Analysis

Analysis was performed using the Statistical Package for the Social Sciences (SPSS). Various forms of statistical techniques were employed in the data analysis phase depending on the research question being answered. Categorical data analysis techniques were used on the data to identify risk factors associated with various outcome variables. Data is published on the understanding that it is in aggregate

form and that individuals are not identifiable. The findings are presented in this report.

## Limitations

The HoPE Pilot study encountered some limitations, most of which will be addressed in future editions. Some of the cells contained small numbers; for example, the Indigenous male responses. Ten Indigenous men were not asked the section on sexual health in order to respect cultural sensitivity, as recommended by the Indigenous Peer Support Officers. Therefore, only 12 Indigenous men completed this section.

A further barrier was the lack of male and Indigenous interviewers. This was recognised as a limitation from the outset, but due to time constraints and this being a pilot study, it was not able to be addressed. Future data collection for the HoPE Project will address these major concerns.

The HoPE respondents are not a truly representative sample of the prison population. Due to logistical constraints, it was not possible to randomly select prisoners for participation. Participation was voluntary and self selected. Peer Support mentors and officers distributed posters and pamphlets and promoted the project. The HoPE Project was able to interview nearly one-sixth of the inmates of Casuarina Prison (male) and over a third of the inmates from Bandyup Women's Prison (female). The HoPE results, however, may be skewed, as the participants were volunteers and generally not suffering from acute levels of distress. Under the ethical guidelines of this pilot project, those participants with acute mental health issues had already been excluded from participation by the Prison Counselling Service (PCS).

The interest among the inmates was such that the number of volunteers was far greater than the number of people who were actually interviewed. Prisoners in the Special Handling Unit or in protective custody were not available for interview. However, the researchers ensured that those in the special units, the infirmary and other sections were represented.

The HoPE questionnaire is designed to be a self-report measure, administered by experienced interviewers. Self-reported data is often criticised; however, research has demonstrated that it is useful as it can be more revealing and accurate about



specific matters personal to the interviewee (Del Boca & Darkes, 2003; Goldberg, Seybolt & Lehman, 2002; Harrison, 1997).

As this questionnaire is not a prison health audit, it sought to reveal past and present health issues in a vulnerable population that are not documented on prison medical health files. Therefore, it was deemed the most appropriate method for this current study.



# PARTICIPANT DEMOGRAPHICS

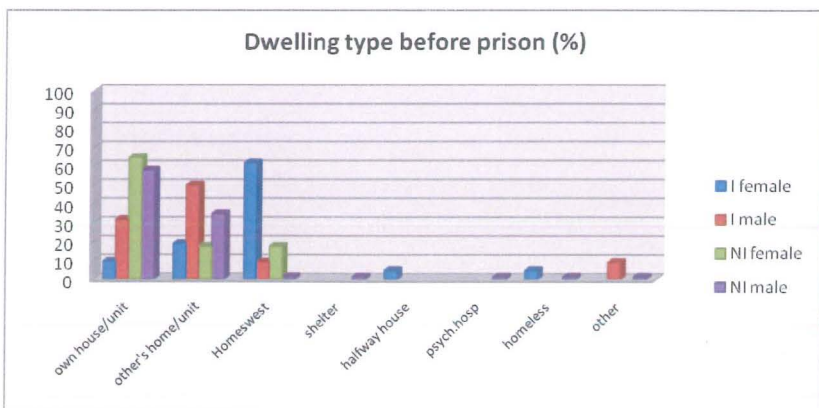
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Pilot Study of Prisoner Physical Health and Psychological Wellbeing

## Living arrangements before prison

	Indigenous				Non-Indigenous				Total	
	Female	%	Male	%	Female	%	Male	%	Total	%
Own/rent home/unit	2	9.5	7	31.8	22	64.8	40	57.9	71	48.6
Others' home/unit	4	19.0	11	50	6	17.6	24	34.8	45	30.8
Homeswest	13	61.9	2	9.1	6	17.6	1	1.4	22	15.1
Shelter	-	-	-	-	-	-	1	1.4	1	0.7
Halfway House	1	4.8	-	-	-	-	-	-	1	0.7
Psychiatric Hospital	-	-	-	-	-	-	1	1.4	1	0.7
Homeless	1	4.8	2	9.1	-	-	1	11.4	4	2.7
Other	-	-	-	-	-	-	1	1.4	1	0.7
	21	100	22	100	34	100	69	100	146	100

Source: ECU HoPE Collection 2008 [computer file]



Source: ECU HoPE Collection 2008 [computer file]

'House/unit' includes owned/mortgaged/rented

'Other's house/unit' includes parents house

'Caravan park' and 'boarding house' was an option but received no responses

This study immediately highlights the plight of Indigenous people. Stability of home life is a notable factor in literature relating to reduced recidivism (Teilmann, 1976; Slomkowski, Rende, Conge, Simons & Conger, 2001; Wooldredge &

Thistlethwaite, 2002). A person's connectedness to his or her community and neighbourhood serves as a protective factor against recidivism (Wooldredge & Thistlethwaite, 2002). However, this HoPE research indicates that Indigenous people are more likely to be transient and/or live in unstable accommodation, which decreases the likelihood of building connections and maintaining relationships within the neighbourhood. Whilst non-Indigenous people are more likely to live in their own home, Indigenous females are most likely to live in Homeswest housing (64.7%) and to report higher levels of halfway housing or homelessness; and Indigenous men usually live in someone else's home or unit (50%).

This study did not examine the ownership status of those respondents who resided in their own house or unit, or whether they were paying a mortgage or were renting privately.

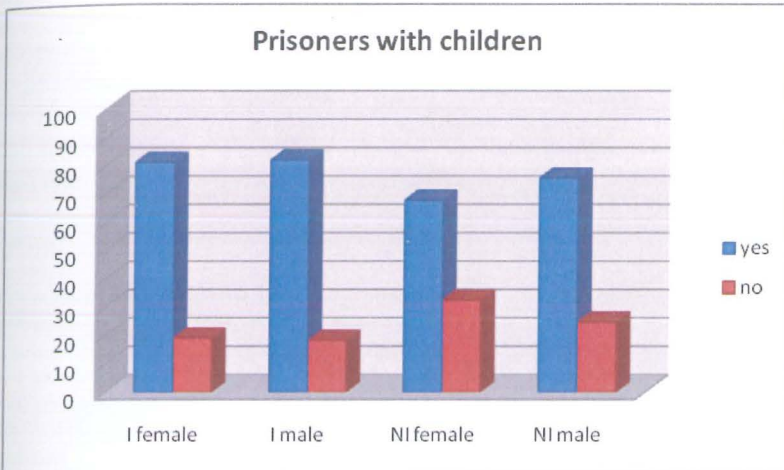
### Current marital status

	Indigenous				Non-Indigenous				Total	
	Female	%	Male	%	Female	%	Male	%	Total	%
<b>Single</b>	9	42.9	8	36.4	11	32.4	27	39.1	55	37.7
<b>Partner</b>	1	4.8	3	13.6	3	8.8	3	4.3	10	6.8
<b>Defacto</b>	8	38.1	5	22.7	6	17.6	10	14.5	29	19.9
<b>Married</b>	1	4.8	4	18.2	5	14.7	9	13.0	19	13
<b>Separated</b>	-	-	1	4.5	3	8.8	5	7.2	9	6.2
<b>Divorced</b>	1	4.8	1	4.5	2	5.9	11	15.9	15	10.2
<b>Widowed</b>	1	4.8	0	-	4	11.8	4	5.8	9	6.2
<b>Total</b>	21	100	22	100	34	100	69	100	146	100

Source: ECU HoPE Collection 2008 [computer file]

This question did not seek to uncover previous relationships or length of time of the current relationship, but simply caught a 'snapshot' of marital status at the time of imprisonment. Approximately one-third of respondents were either married or in de facto relationships; 45 percent were single, never having been married; and the remaining 23 percent were living apart as a result of divorce, separation or death of the partner. This contrasts with the 2006 ABS census data which showed that approximately 50 percent of Australians were married, 31 percent were single and only 17 percent were no longer married due to divorce, separation or widowhood. The difference between the marriage/de facto rates in the Australian population and the incarcerated population is notable.

### Prisoners with children



Source: ECU HoPE Collection 2008 [computer file]

The matter of children, however, is more problematic. Over three-quarters of the men reported having children (75.8%), with an average of three children per father (ranging in age from one to 14). Eighty-four of these children (38.4%) were living with their father prior to his imprisonment. Seventy-three percent of the female prisoners reported having children, with an average of almost three children per mother (ranging from one to 10 children per woman). Fifty (46.7%) of these children were living with their mother prior to her incarceration. It must be noted that details were only recorded for the first six children, so estimations will be slightly lower than actual figures.

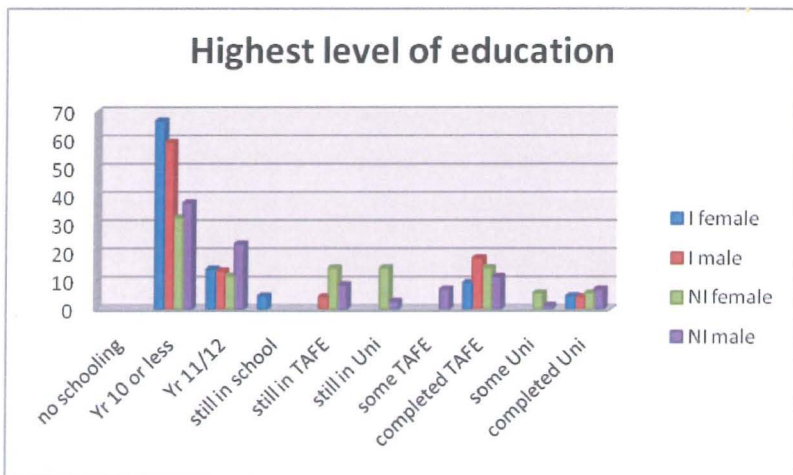
The HoPE questionnaire sought responses relating to step or adopted children as well as natural children. Given the large numbers of children that some respondents had either as biological, step or adopted children, it is a matter for consideration for the questionnaire to be modified to take these into account.

This area lends itself to further study. The entire area of relationships, family and children is also under investigation by the current researchers in a project titled "Collateral Damage", which looks at the impact of incarceration on families.



## Education levels of prisoners

Prisoners were asked to indicate the highest level of education they had completed.



Source: ECU HoPE Collection 2008 [computer file]

These figures are self-explanatory, but it is worth noting that the clustering of numbers in the University and TAFE categories do not show whether those prisoners started their further education while in prison or were continuing courses begun outside. The anecdotal conversations held with the participants revealed that most of the respondents actually began their further education whilst in prison. This is an important consideration, as a meta-analysis of research into post secondary correctional education (PSCE) concluded that there is a positive correlation (+0.31) between PSCE and recidivism reduction (Chappell, 2004; Steurer & Smith, 2003). The survey questionnaire will be modified to reflect education programs in prison.

Across the board, most prisoners did not complete high school. This is problematic as research has indicated that offenders who graduate from high school are less likely to be involved in repeat offences (Sherman & Smith, 1992).

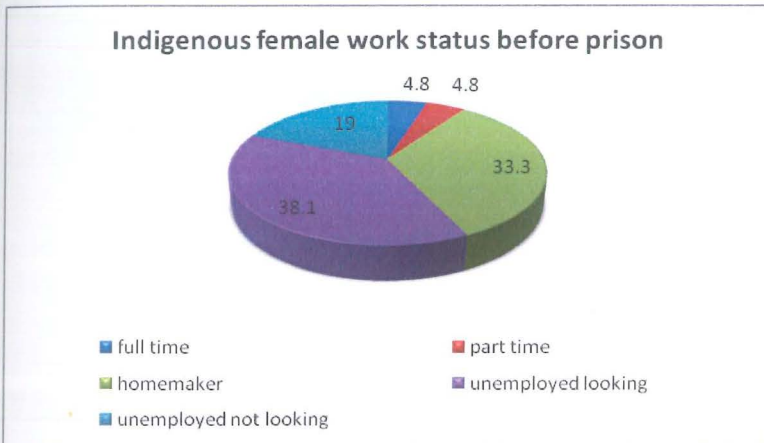
## Work status before imprisonment

Prisoners were asked what their work status was prior to imprisonment.

	Indigenous				Non-Indigenous				Total	
	Female	%	Male	%	Female	%	Male	%	Total	%
Full-time	1	4.8	10	45.5	7	20.6	40	58.0	58	39.7
Part time	1	4.8	1	4.5	5	14.7	9	13.0	16	11
Homemaker	7	33.3	-	-	10	29.4	1	1.4	18	12.3
On leave	-	-	-	-	-	-	2	2.9	2	1.3
Seasonal	-	-	-	-	2	5.9	-	-	2	1.3
Unemployed & looking*	8	38.1	7	31.8	1	2.9	6	8.7	22	15.1
Unemployed not looking*	4	19.0	3	13.6	7	20.6	7	10.1	21	14.4
Full time education	-	-	1	4.5	-	-	-	-	1	0.7
Retired	-	-	-	-	-	-	-	-	0	0
Disabled	-	-	-	-	2	5.9	1	1.4	3	2.1
Other **	-	-	-	-	-	-	3	4.2	3	2.1
<b>Total</b>	<b>21</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>69</b>	<b>100</b>	<b>146</b>	<b>100</b>

Source: ECU HoPE Collection 2008 [computer file]

\*looking/not looking for work      \*\*included illegal work only and never worked



Source: ECU HoPE Collection 2008 [computer file]

In the period before coming to prison, 57.1% of Indigenous women reported that they were unemployed. Only half of this group were actively seeking employment. Over a third of Indigenous women (33.3%) reported they were full-time homemakers before coming to prison.

### Non-Indigenous female work status before prison



Source: ECU HoPE Collection 2008 [computer file]

In the period before coming to prison, nearly a quarter of non-Indigenous women reported that they were unemployed, with most of those not looking for work. As in the case of Indigenous women, nearly a third classed themselves as full-time homemakers.

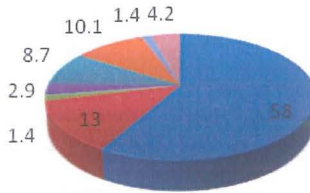
### Indigenous male work status before prison



Source: ECU HoPE Collection 2008 [computer file]

45.5% of Indigenous men were engaged in full-time employment before coming to prison. However, nearly a third were unemployed and looking for work during the period before incarceration.

### Non-Indigenous male work status before prison



- full time
- homemaker
- unemployed looking
- disabled
- part time
- on leave
- unemployed not looking
- other

Source: ECU HoPE Collection 2008 [computer file]

58% of non-Indigenous men were working full-time before prison, with 13% working part-time. This indicates that nearly three-quarters of prisoners were engaged in some type of paid employment before incarceration.

Overall, 82.9% of respondents were employed in prison working in areas such as groundskeeping, peer support, metalwork, woodwork, construction or building, bricklaying, hospitality, textiles, cleaning, maintenance, stores, workshops, sport and recreation, library, printing or full-time education.





# PHYSICAL HEALTH

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Pilot Study of Prisoner Physical Health and Psychological Wellbeing

## Health Status

This section of the questionnaire determined if the prisoner had ever been told by a doctor that they had any of the following conditions.

### Allergies

	Indigenous				Non-Indigenous				Total	
	Female	%	Male	%	Female	%	Male	%	Total	%
<b>Current</b>	7	33.3	4	18.2	11	32.4	22	31.9	44	30.1
<b>Past</b>	-	-	-	-	1	2.9	1	1.4	2	1.4
<b>No</b>	14	66.7	18	81.8	22	64.7	46	66.7	100	68.5
<b>Total</b>	21	100	22	100	34	100	69	100	146	100

Source: ECU HoPE Collection 2008 [computer file]

Access Economics (2007) found that Australians and New Zealanders report some of the highest levels of allergies in the world, with 4.1 million Australians (19.6% of the population) having at least one allergy, of whom 2.2 million (55%) are female and 1.9 million (45%) are male. Further, the Asthma Foundation of South Australia has said that allergies are on the increase, not only in Australia, but also throughout the world. It confirmed the claim from the Access Economics survey that in Australia and New Zealand, approximately:

- 1 in 3 people develop allergies at some time in their lives;
- 1 in 5 will develop atopic dermatitis;
- 1 in 6 will have an attack of hives (urticaria);
- 1 in 20 will develop food allergy; and
- 1 in 100 will have a life-threatening allergy known as anaphylaxis.

Of the four categories of respondents in the HoPE study, three are consistent with the national expectations for allergies. It is an interesting observation that Indigenous males suffer from allergies at a noticeably lower rate than does the wider Australian community. Further investigation is required to determine the underlying causes of these differences. Participants reported five major categories of allergies:

Food	5.5%
Bees	4.8%
Medication	11%
Hayfever/associated allergies	5.5%
Other	3.4%

Source: ECU HoPE Collection 2008 [computer file]

When considering the categories of allergies, the increased response to the bee allergy indicates that the incidence of anaphylactic reaction in the prison population (4.8%) is greater than in the general population (1%). However, the incidence of anaphylaxis in the general public is often under-reported (Yocum et al, 1999) and frequently not recognised by patients and physicians (Estelle & Simons, 2005). These categories are consistent with findings that indicate that the most common triggers are food, medication or insect sting (Yocum et al., 1999). This raises the question of whether prisoner health care has diagnosed the allergies, which has resulted in an increase in responses, or whether something within the prisons is contributing to the systems. Considering the increased numbers, healthcare professionals have recommended providing risk assessment, risk reduction strategies and anaphylaxis training (Estelle & Simons, 2005).

## Arthritis

	Indigenous				Non-Indigenous				Total	
	Female	%	Male	%	Female	%	Male	%	Total	%
<b>Yes</b>	<b>3</b>	<b>14.3</b>	<b>3</b>	<b>13.6</b>	<b>6</b>	<b>17.6</b>	<b>7</b>	<b>10.1</b>	<b>19</b>	<b>13</b>
<b>No</b>	<b>17</b>	<b>81</b>	<b>19</b>	<b>86.4</b>	<b>28</b>	<b>82.4</b>	<b>62</b>	<b>89.9</b>	<b>126</b>	<b>86.3</b>
<b>DK</b>	<b>1</b>	<b>4.8</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>0.7</b>
<b>Total</b>	<b>21</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>69</b>	<b>100</b>	<b>146</b>	<b>100</b>

Source: ECU HoPE Collection 2008 [computer file]

The literature from Arthritis Associations throughout Australia shows that the onset of arthritis typically occurs during the working age of 18 to 60, with women accounting for 60 percent of all those diagnosed. There are a number of risk factors for arthritis, which are all believed to be important; namely, family history, genetic factors and environmental triggers (Arthritis Western Australia, 2008). More than six million Australians were estimated to have had arthritis or a musculoskeletal condition in 2004-05 (AIHW, 2006), which represents 31 percent of the entire population. While the numbers in the HoPE data are not consistent with the numbers for the wider community of Australia or Western Australia, they are too small from which to draw conclusions.

## Epilepsy or Seizures

	Indigenous				Non-Indigenous				Total	
	Female	%	Male	%	Female	%	Male	%	Total	%
<b>Yes</b>	<b>1</b>	4.8	-	-	<b>1</b>	2.9	<b>5</b>	7.2	<b>7</b>	4.8
<b>No</b>	<b>20</b>	95.2	<b>22</b>	100	<b>33</b>	97.1	<b>64</b>	92.8	<b>139</b>	95.2
<b>Total</b>	<b>21</b>	100	<b>22</b>	100	<b>34</b>	100	<b>69</b>	100	<b>146</b>	100

Source: ECU HoPE Collection 2008 [computer file]

Respondents were specifically asked whether their last seizure was related to withdrawal from alcohol or drugs. Only one participant indicated that she was withdrawing from amphetamine use, indicating that the majority of seizures were health related.

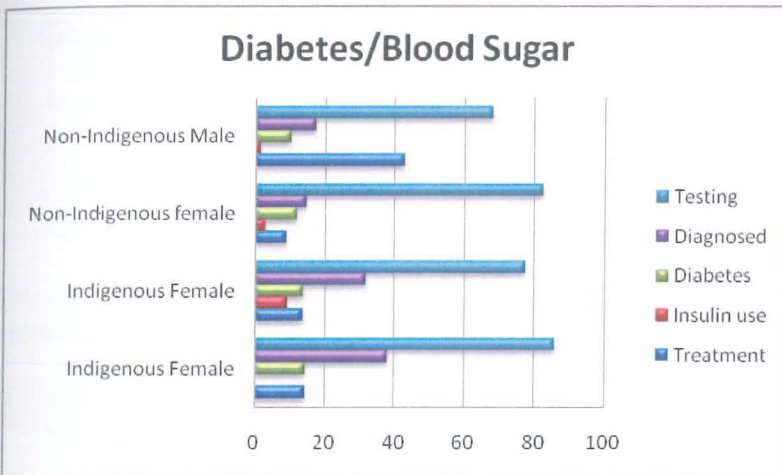
## Diabetes and Blood Sugar

The blood sugar section was included to examine the level of diabetes within the prison population. The data included affirmative responses to determine whether participants had been tested, diagnosed and/or treated for blood sugar levels.

A limitation was noted whereby the Indigenous participants were not familiar with the term 'diabetes' but responded to 'blood sugar'. Therefore, the level of Indigenous respondents reporting diabetes may be underestimated. The terminology in the questionnaire has been amended for future use of the HoPE survey.

However, even with this underestimation, the level of diabetes within the general population is 3.5 percent (Australian Institute of Health and Welfare, 2006). Prisoners, however, are reporting the diagnosis of diabetes at 11.6 percent, which is more than three times higher than for the national population. It is estimated that for every person diagnosed in the general population, one goes undiagnosed (Barr et al., 2006). Therefore, the regular screening of prisoners could account for the higher level of detection within prison populations. These results have implications for the treatment of Type I and Type II diabetes. Diet and lifestyle factors impact on Type II diabetes. Therefore, further examination may be required in this area.

- Participants were asked whether they had received a blood sugar test in the last 12 months
- Participants were also questioned whether a doctor or nurse had told them they had high blood sugar
- Those who reported having high blood sugar were asked whether they had diabetes
- Those who had diabetes were asked whether they took insulin
- All respondents who had diabetes were asked about treatment



Source: ECU HoPE Collection 2008 [computer file]

Note: percentages shown are calculated on the number of individual respondents within each of the sub categories and not the total population



## Asthma

	Indigenous				Non-Indigenous				Total	
	Female	%	Male	%	Female	%	Male	%	Total	%
<b>Current</b>	<b>6</b>	<b>28.6</b>	<b>5</b>	<b>22.7</b>	<b>14</b>	<b>41.2</b>	<b>18</b>	<b>26.1</b>	<b>43</b>	<b>29.5</b>
<b>Past</b>	<b>1</b>	<b>4.8</b>	<b>2</b>	<b>9.1</b>	<b>1</b>	<b>2.9</b>	<b>4</b>	<b>5.8</b>	<b>8</b>	<b>5.5</b>
<b>No</b>	<b>14</b>	<b>66.7</b>	<b>15</b>	<b>68.2</b>	<b>19</b>	<b>55.9</b>	<b>47</b>	<b>68.1</b>	<b>95</b>	<b>65</b>
<b>Total</b>	<b>21</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>69</b>	<b>100</b>	<b>146</b>	<b>100</b>

Source: ECU HoPE Collection 2008 [computer file]

Note: percentages shown are calculated on the number of individual respondents within each of the sub-categories and not the total population.

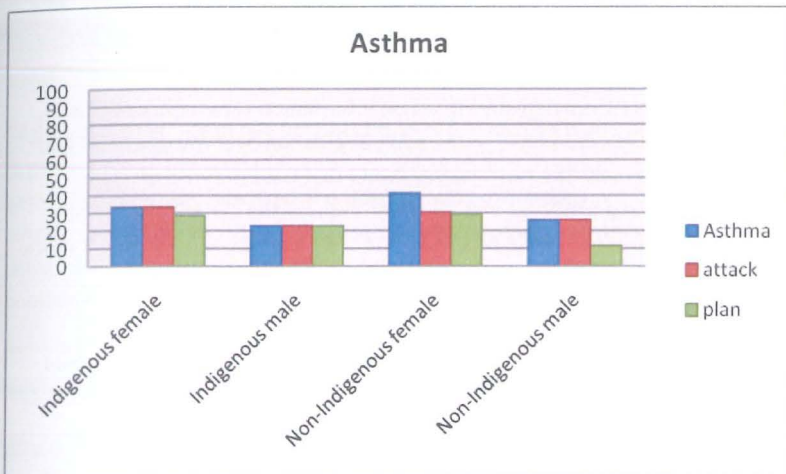
A wide range of complex factors trigger asthma, including genetic, age and gender factors. Environmental triggers induce airway narrowing, with triggers including exercise, viral infections, irritants (such as smoking and other air pollutants), specific allergens (house dust mites and mould spores) and some food preservatives (Australia's Health, 2006).

Estimates based on the 2004-05 National Health Survey (NHS) findings indicate that over two million Australians currently have asthma (Australian Institute of Health and Welfare, 2007). This represents 10.2 percent of the Australian population, although the number is down from 11.6 percent in 2001. Males have a slightly lower prevalence (9%) than females (11.5%). In the HoPE survey, however, inmates were shown to suffer from asthma at far greater rates than the general population; that is, 43 percent of females and 25 percent of males. Indigenous females suffer from asthma at less than half the rate of non-Indigenous females. There are mixed reports about rates of asthma within Indigenous populations (Whybourne, Lesnikowski, Ruben & Walker, 1999; Williams, Gracey & Smith, 1997).

Furthermore, the incidence of smoking among asthma-suffering inmates is at around 50 percent for females. Smoking was very high among inmates of both prisons, so it would be reasonable to expect that the prevalence of asthma would be correspondingly high. Recent initiatives from the Western Australian Department of Corrective Services include non-smoking trials, where smoking is limited to very few areas of the prison. The aim is for inmates to reduce or cease their smoking, so future percentages for the incidence of asthma may be lower in WA.

## Asthma Attack

- Percentage of people diagnosed with asthma
- Percentage of people suffering from attacks or difficulty breathing in previous 3 months
- Percentage of people on a current asthma plan



Source: ECU HoPE Collection 2008 [computer file]

## Back Problems

	Indigenous				Non-Indigenous				Total	
	Female	%	Male	%	Female	%	Male	%	Total	%
<b>Current</b>	10	47.6	5	22.7	13	38.2	28	40.6	56	38.4
<b>Past</b>	2	9.5	2	9.1	3	8.8	11	15.9	18	12.3
<b>No</b>	9	42.9	15	68.2	18	52.9	30	43.5	72	49.3
<b>Total</b>	21	100	22	100	34	100	69	100	146	100

Source: ECU HoPE Collection 2008 [computer file]

Thirty-five percent of the general population report back pain or disorders (AIHW, 2008). This is consistent with the figures for current back pain sufferers from this survey.