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2010 ACT Inmate Dental Health Survey Key Results

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Professor Michael Levy[1], Dr Devon Indig, Dr Jill Guthrie[1] and Mr Kyle Turner[2] are acknowledged for their work in developing the survey.

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1. Introduction

Prison inmates are characterised by disadvantage, with histories of disrupted family and social backgrounds; abuse, neglect and trauma; poor educational attainment and limited employment opportunities; unstable housing; parental incarceration; juvenile detention; dysfunctional relationships and domestic violence; and previous episodes of imprisonment. With such multiple risk factors for poor health, it is hardly surprising that prison inmates are further characterised by physical and mental health far below that enjoyed by the general population.

On 30 June 2010, there were 29,700 prisoners in Australian prisons. Of these prisoners, 203 were inmates in the Australian Capital Territory (ACT) which represents less than one per cent of the nation's prisoners. The ACT's imprisonment rate decreased by 8% between 1999 and 2009 (from 81 to 75 prisoners per 100,000 adults).

In 1996, New South Wales (NSW) Corrections Health Service conducted the Inmate Dental Health Survey to investigate the oral health status of the NSW prisoner population. This survey provided comprehensive descriptions of prisoner oral health.

The 2010 ACT Inmate Health Survey was the first survey conducted in the ACT prison, the Alexander Maconochie Centre (AMC). Results from this survey provide the best available evidence to form a baseline assessment of the health needs of prisoners in the ACT. These results inform the provision of health services and policy development to ensure that health service delivery in correctional facilities meets the needs of the inmate population.

The Alexander Maconochie Centre

The Alexander Maconochie Centre (AMC) is the adult prison and remand centre for the ACT; it was commissioned on 30 March 2009. In May 2010, at the time of the Inmate Health Survey, there were 276 residents at the AMC. In December 2013 there are 340 residents.

In July 2007, the ACT Human Rights Commission tabled in the ACT Legislative Assembly, the Human Rights Audit on the Operation of ACT Correctional Facilities under Corrections Legislation. The audit recommended:

> *"In the period immediately preceding the repatriation of ACT prisoners, funding should be provided to conduct an audit of the medical records of ACT prisoners in the ACT and NSW. This should be followed by a survey of epidemiological health needs of prisoners at the Alexander Maconochie Centre towards the end of its first year of operation, with a view to budgeting adequately for health services at the Alexander Maconochie Centre."*

The 2010 ACT Inmate Health Survey was conducted in May 2010. The survey was adapted from the NSW Inmate Health Survey with the aim of providing comparable data and with the view to building on the success of the NSW surveys. The 2010 ACT Inmate Dental Health Survey was also conducted in May 2010, with the aim of gaining an overview of the dental health status of ACT detainees.

The ACT Inmate Health Survey was conducted by the ACT Corrections Health Program, with assistance from ACT Corrective Services, Justice Health (NSW), the ACT Dental Health Program and Mental Health ACT.

This report presents the main findings of the cross-sectional component of the 2010 ACT Inmate Dental Health Survey drawing from a random sample of 101 participants.

National indicators for detainees have been provided for comparative purposes.

Methodology

The 2010 ACT Inmate Health Survey was conducted at the AMC between 1 and 25 May 2010. The physical and mental health components of the survey were conducted over 14 days. The oral health examination was carried out on the same day, or a following day.

The methodology for the 2010 ACT Inmate Dental Health Survey was a concise adaptation of the first NSW Inmate Health Survey (1996) focusing mainly on the caries experience of respondents.

A stratified random sample of all inmates residing at AMC was selected with oversampling in specific groups. Inmates were selected from a list of residents that was obtained each day before the survey day (e.g. Friday for Monday, Monday for Tuesday etc). Residents were then sequentially numbered. Names were removed from each day's list if the person had already participated in the survey, or if the person had refused to participate on two separate occasions. Each day a hierarchy of potential subjects was compiled using the random number list.

There was a total of 276 detainees at the Alexander Maconochie Centre between 1 and 25 May 2010. A total of 202 detainees were invited to participate in the larger health survey with 135 detainees participating. Of this a subset 101 (75%) volunteered for this dental health survey.

The dental component of this survey consisted of an oral examination alone; no questionnaire was used, and no history of dental contacts or attitudes towards treatment was made.

The examination was conducted under standard clinical conditions at the AMC dental suite. Standard lighting, probes and mirrors were used. Assessments included charting and recording of dental caries, restorations and missing teeth were done using the guidelines of the World Health Organization. No differentiation between root and crown decay was made.

The number of decayed, missing and filled permanent (adult) teeth (DMFT), reflecting the person's lifetime experience of dental caries, was noted; erupted wisdom teeth were taken into account. Decay-missing-filled index is one of the most common methods in oral epidemiology for assessing dental caries prevalence as well as dental treatment needs among populations. This index, based on clinical examination of individuals, simply counts the number of decayed, missing (due to caries only) and restored teeth. Because the DMFT index is done without X-ray imaging, it underestimates real caries prevalence and treatment needs.

Mucosal and other pathologies were also noted and recorded (but did not form part of the survey results). At the end of the examination, the patient was informed of their dental conditions and follow up treatments were offered.

For reference: an adult has 32 permanent teeth.

Ethics

The ACT Human Research Health Ethics Committee approved the 2010 ACT Inmate Health Survey.

2. Key Results

The overall participation was 75% (101/135) comprising 9% women and 91% men. Overall the DMFT index for men was slightly higher than for women. The average number of filled and missing teeth was higher in men than in women, with women having a higher number of decayed teeth than men.

There was a higher average number of decayed teeth in the detainees compared to the national average. The number of missing teeth in male and female detainees was comparable to the national average.

The number of filled teeth was much lower in the prisoner population compared to the national average for both males and females (Table 1).

Table 1: Average number of DMFT by sex, ACT detainees (2010) and Australian community (2004-06)

	No.	Decayed (D)	Missing (M)	Filled (F)	DMFT
ACT:					
Male detainees	92	3.6	5.3	3.4	12.3
Female detainees	9	5.3	4.6	1.8	11.7
Total detainees	101	3.7	5.3	3.2	12.2
Australia:					
Male community		0.7	4.5	7.2	12.4
Female community		0.5	4.6	8.1	13.3
Total community		0.6	4.6	7.7	12.9

Source: ACT Health. ACT Inmate Dental Health data collection, 2010

AIHW. *Oral health and dental care in Australia: key facts and figures 2011*, cat.no. DEN 214, Canberra, 2011

Further analysis of the results by age, demonstrates that the DMFT scores increased with age from 7.5 in the 18-24 year age group to 27.7 in the 65+ year age group (Table 2).

The number of decayed teeth decreased with age whereas the number of missing and filled teeth increased with age, with missing teeth accounting for the higher DMFT score in the 45 year and above age range. This general trend is reflected in the national community scores as well. The only exception is in the 45-64 year age range where the number of filled teeth was higher than missing teeth nationally. Conversely, in the detainee results, the number of filled teeth in the 45-64 year age group was lower than that for missing teeth.

The proportion of missing teeth to filled teeth in the 45-64 year and 65+ year age groups in the prisoner population was higher than the comparable national scores.

Table 2: Average number of DMFT by age, ACT detainees (2010) & Australian community (2004-06)

	No.	Decayed (D)	Missing (M)	Filled (F)	DMFT
ACT detainees:					
18 – 24 years	32	4.0	1.6	1.9	7.5
25 – 44 years	57	3.8	5.4	3.1	12.2
45 – 64 years	9	3.2	13.2	6.4	22.9
65+ years	3	1.3	17.3	9.0	27.7
Total (ACT detainees)	101	3.7	5.3	3.2	12.2
Australia:					
15 – 24 years		0.6	0.6	2.0	3.2
25 – 44 years		0.7	1.6	6.1	8.3
45 – 64 years		0.5	7.3	12.1	19.8
65+ years		0.4	12.9	10.4	23.7
Total (Australia community)		0.6	4.6	7.7	12.9

Source: ACT Health. ACT Inmate Dental Health data collection, 2010

In this sample there were less than five males aged between 40-59 years who were edentulous (toothless).

Direct comparison to the national scores needs to take into consideration differences in the collection of data and the small sample size of our survey population.

The edentulous proportion for the survey respondents was 2% in the 25-44 year age range, and 22% in the 45-64 year age range. This was much higher than the national edentulous proportion which was reported as negligible for the 24-44 year age range and 5.5% in the 45-64 year age range.

The number of female detainees in the ACT sample was very small. In this sample the age range of the female detainees was 21- 40 years, with less than five participants being in the 18-24 year age range and seven being in the 25-44 year range. None of the women was edentulous. The female detainees in the 25-44 year age group had more decayed teeth (3.8) than the national average (0.7) for women.

Table 3: Average number of DMFT by age, female ACT detainees (2010)

	No.	Decayed (D)	Missing (M)	Filled (F)	DMFT
ACT female detainees:					
18-24 years	<5	6.0	0.5	0	6.5
25-44 years	7	5.1	5.7	2.3	13.1

Source: ACT Health. ACT Inmate Dental Health data collection, 2010

When compared to the national average (8.1), this sample of female detainees had less filled teeth (1.8). Furthermore, this number was also lower when compared to the male detainees (3.4).

Key Messages

The level of dental decay is up to six times higher among ACT detainees, compared to age-matched national community controls.

The level of missing teeth among younger detainees is about three times higher than that for age-matched national controls.

In the general population, the proportion of filled teeth to missing teeth is lower in the 25-64 year age group, than to the 65 years and over age group. In contrast, in ACT detainees, for the same age groups, there are more missing teeth than filled teeth.

This will have implications for dental service provisions offered to ACT detainees.

3. Abbreviations

ABS: Australian Bureau of Statistics

ACT: Australian Capital Territory

AIHW: Australian Institute of Health and Welfare

AMC: Alexander Maconochie Centre

DFMT: The number of decayed, missing and filled permanent (adult) teeth (DFMT) reflects a person's lifetime experience of dental caries. (ABS and AIHW, 2005)

NSW: New South Wales

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