HCV Infection in South Australian Prisoners: Prevalence, Transmission, Risk Factors and Prospects for Harm Reduction

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Contents

Papers published, submitted or presented during candidature ........................................ i
Abstract ........................................................................................................................................ ii
Declaration ..................................................................................................................................... iv
Acknowledgements ....................................................................................................................... v
Introduction ...................................................................................................................................... 1

1 HCV: a brief overview ........................................................................................................... 3
  1.1 Infection with HCV ........................................................................................................... 4
    1.1.1 The virus .................................................................................................................. 5
    1.1.2 The test ..................................................................................................................... 6
    1.1.3 The natural history ................................................................................................. 7
    1.1.4 The available treatment ......................................................................................... 9
  1.2 HCV: overview conclusion ........................................................................................... 10

2 Literature review .................................................................................................................. 11
  2.1 HCV prevalence in prisons ............................................................................................. 11
    2.1.1 International literature ......................................................................................... 12
    2.1.2 Australian literature ........................................................................................... 26
  2.2 HCV transmission in prisons ......................................................................................... 29
    2.2.1 International literature ......................................................................................... 29
    2.2.2 Australian literature ........................................................................................... 31
  2.3 Risk factors for HCV ...................................................................................................... 36
    2.3.1 Injecting drug use .................................................................................................. 37
      2.3.1.1 Injecting in the community ............................................................................. 38
      2.3.1.2 Injecting in prison settings .......................................................................... 40
    2.3.2 Tattooing .............................................................................................................. 44
      2.3.2.1 Tattooing in the community ........................................................................ 45
      2.3.2.2 Tattooing in prison ..................................................................................... 46
  2.4 Literature Review: conclusion ...................................................................................... 48

3 Prison ....................................................................................................................................... 52
5.1 The cross-sectional stage

5.1.1 The prevalence of HCV in prison

5.1.1.1 The case note audits

5.1.1.2 Demographic characteristics

5.1.1.3 Documented HCV-antibody test results

5.1.1.4 Univariate analyses

5.1.1.4.1 History of HCV-antibody testing

5.1.1.4.2 Factors associated with HCV-antibody status

5.1.1.4.3 Factors associated with Indigenous status

5.1.1.5 Multivariate analyses

5.1.1.6 Single audit subpopulations

5.2 The cohort stage

5.2.1 Prisoner recruitment
5.2.2  HCV-seroconversion in prison ................................................................. 119
  5.2.2.1  Serial antibody testing ................................................................. 119
    5.2.2.1.1  HCV-antibody status at entry .............................................. 120
    5.2.2.1.2  Factors associated with HCV-antibody at entry ................. 121
    5.2.2.1.3  HCV-antibody status at follow up ....................................... 122
  5.2.2.2  PCR testing for HCV-RNA ............................................................ 123
5.2.3  Risk factors for HCV in prison .............................................................. 124
  5.2.3.1  Risk factor history at prison entry .............................................. 124
  5.2.3.2  Risk factors and HCV-antibody status at entry .......................... 127
    5.2.3.2.1  Univariate analyses .............................................................. 127
    5.2.3.2.2  Multivariate analyses ......................................................... 133
  5.2.3.3  Risk factors and HCV-antibody status at follow up ................. 135
  5.2.3.4  Risk factors and HCV-antibody status post-release ............... 141
5.2.4  HCV-seroconversion in those at risk in the community ...................... 142
5.3  The consultation stage ............................................................................ 143
  5.3.1  Developing harm reduction strategies ............................................ 143
    5.3.1.1  Limited stakeholder consultations .......................................... 144
      5.3.1.1.1  Importance of HCV as a workplace issue ............................ 144
      5.3.1.1.2  Provision of information about HCV in prisons ............... 146
      5.3.1.1.3  The importance of communicable diseases as a workplace issue 146
      5.3.1.1.4  Suggested strategies for HCV prevention in prison settings 148
      5.3.1.1.5  Other issues arising from the stakeholder interviews ........ 156
  5.4  Summary of results .............................................................................. 163
  5.4.1  Cross-sectional stage ...................................................................... 163
  5.4.2  The cohort stage .............................................................................. 164
    5.4.2.1  HCV status at entry ............................................................... 165
    5.4.2.2  HCV seroconversion ............................................................... 165
    5.4.2.3  PCR testing for HCV-RNA ....................................................... 165
    5.4.2.4  Risk factor history at prison entry ......................................... 166
    5.4.2.5  Risk factor history at follow up ............................................. 167
  5.4.3  HCV-seroconversion in those at risk in the community .................. 167
  5.4.4  Stakeholder consultations .................................................................. 168
6  Discussion ............................................................................................... 170
6.1 Doing research in prison ................................................................. 170
  
  6.1.1 The prison environment ...................................................... 170
  
  6.1.2 The prison entrant population ............................................. 172
  
  6.1.3 The correctional system ..................................................... 175
  
  6.1.4 Other operational and administrative factors ...................... 176
  
6.2 The prevalence of HCV in SA prisons ........................................... 178
  
  6.2.1 Demographic factors associated with HCV ......................... 178
    
  6.2.1.1 HCV and sex status ......................................................... 178
  
  6.2.1.2 HCV and age ................................................................. 179
  
  6.2.1.3 HCV and Indigenous status ........................................... 180
  
  6.2.2 HCV and seasonal or other trends ....................................... 181
  
6.3 HCV seroconversion in SA prisoners ............................................ 182
  
6.4 HCV seroconversion in those at risk in the community .................. 183
  
6.5 Risk factors of HCV in SA prisoners ........................................... 184
  
  6.5.1 Risk factors at entry .......................................................... 184
  
  6.5.2 Risk factors at follow up ..................................................... 186
  
6.6 HCV-antibody and PCR assays at three months .......................... 188
  
6.7 Planning strategies for change ................................................... 189
  
  6.7.1 Prison opiate replacement program ..................................... 189
  
  6.7.2 HCV in female prisoners .................................................... 190
  
  6.7.3 HCV in Indigenous prisoners ............................................. 190
  
  6.7.4 Discharge planning and ‘through-care’ ................................. 191
  
  6.7.5 Suggested HCV prevention strategies ................................... 192
  
  6.7.6 Other issues related to prevention in prisons ....................... 194
  
6.8 Limitations of this thesis .......................................................... 195
  
6.9 Significance of this thesis ........................................................ 200
  
7 Conclusions and Recommendations .............................................. 202
  
Appendix A Case note audit data collection sheet ............................... 209
  
Appendix B Recruitment and follow-up protocol .................................. 211
  
Appendix C Participant progress sheet ............................................. 214
  
Appendix D Prison participant pathways .......................................... 216
Appendix E Risk factor surveys .............................................................................. 219
Appendix F Stakeholder consultation interview schedule ..................................... 223
Appendix G Consent forms ..................................................................................... 225
Appendix H Information sheets ............................................................................. 229
8 References ............................................................................................................. 236

Figures
Figure 1.1-1: Prognosis of HCV infection ................................................................. 9
Figure 2.3-1: SA HCV notifications by risk factor - January 1995 to December 2005 ...... 36
Figure 3.1-1: Geographical location of South Australian Prisons ............................... 58
Figure 4.4-1: Calculating HCV-seroconversion rates for those at risk in the community..... 76
Figure 5.2-1: Weekly recruitment numbers according to response category* - October 2004 to August 2005 ........................................................................................................ 115
Figure 5.2-2: Time from prison entry to discharge in 723* study enrolments over 42 weeks – October 2004 to August 2005 ........................................................................................................ 117
Figure 5.2-3: Agreement between HCV antibody and HCV-PCR tests at three months from prison entry (n=36) ........................................................................................................ 124
Figure 5.2-4: Reported IDU in prison according to confirmed HCV-status at entry .......... 139
Figure 5.2-5: Kaplan Meier survival estimates for IDU in prison according to HCV status at prison entry ........................................................................................................ 139
Figure 5.2-6: Reported tattooing in prison according to confirmed HCV-status at entry ...... 140

Tables
Table 1.1-1: Global prevalence of HCV-infection by World Health Organization region – 1999 – compared to Australia ........................................................................................................ 5
Table 2.1-1: International HCV prison prevalence studies (24 studies) ....................... 23
Table 2.1-2: Australian HCV prison prevalence studies (7 studies) .......................... 28
Table 2.2-1: HCV prison transmission studies - Australian and international (11 studies) .... 35
Table 3.1-1: Australian prisoners by jurisdiction* – 2005 ............................................. 55
Table 3.1-2: South Australian Prisons ......................................................................... 57
Table 4.2-1: South Australian monthly admissions and discharges by prison*...............61
Table 5.1-1: Selected characteristics in SA prisoners – summer 2005 (n=1347)........91
Table 5.1-2: Selected characteristics in SA prisoners – winter 2005 (n=1347).........92
Table 5.1-3: Demographic characteristics according to audit in SA prisoners during summer 2005 (n = 1347) and winter 2005 (n=1347)..............................................................93
Table 5.1-4: Positive HCV-antibody test results according to audit in SA prisoners – summer (n=982*) and winter (n=1047*).................................................................94
Table 5.1-5: Characteristics of SA prisoners with no documented history of testing in summer (n=1347) and winter (n=1347) – 2005.........................................................97
Table 5.1-6: Factors associated with HCV-antibody status in SA prisoners – summer 2005 (n=982*) and winter 2005 (n=1047**)...98
Table 5.1-7: Age distribution and HCV antibody prevalence by Indigenous status in SA prisoners* - summer (n=1098) and winter (n=1099) 2005.................................100
Table 5.1-8: Factors associated with HCV-antibody status in SA prisoners in summer (n=713*) and winter (n=819*) 2005 – multivariate analysis.................................101
Table 5.1-9: Demographic characteristics of SA prisoners present for only one audit in summer 2005 (n = 544) and winter 2005 (n=544)..............................................102
Table 5.1-10: Factors associated with HCV-antibody status among SA prisoners present for only one audit – summer (n=381*) versus winter (n=388*) 2005......................104
Table 5.1-11: Demographic characteristics of SA prisoners imprisoned for two weeks or less during summer and winter 2005 (n=174)..................................................106
Table 5.1-12: HCV-antibody status in prison entrants* (n=98**) compared to longer stayers from the summer audit (n = 939†) in 8 publicly operated prisons in SA - 2005 ..........107
Table 5.1-13: Factors associated with HCV-antibody status among new prison entrants* (n = 98**) versus longer stay prisoners† (n=939†) in SA – 2005...............................108
Table 5.1-14: Demographic characteristics and HCV-antibody status in Port Augusta prisoners - summer (n=249) and winter (n=248) 2005............................................109
Table 5.1-15: Age distribution and HCV-antibody prevalence by Indigenous status in Port Augusta prisoners - summer (n=249) and winter (n=248) 2005.................................110
Table 5.2-1: Identified prison admissions* by response category – October 2004 to August 2005 ..............................................................................................................111
Table 5.2-2: Prisoners multiply admitted after not being accessed on first admission*......113
Table 5.2-3: Prisoners multiply admitted after declining on first admission* by response category – October 2004 to August 2005 ..........................................................114
Table 5.2-4: Demographic characteristics of participating new prison entrants* by prison (n=666) ...........................................................................................................................................116
Table 5.2-5: Characteristics of admissions to metropolitan prisons in SA - January to August 2005 - participants versus non-participants .......................................................................................................................119
Table 5.2-6: HCV-antibody status at prison entry in SA (n=665*) – October 2004 to August 2005 ........................................................................................................................................................................120
Table 5.2-7: Factors associated with HCV-antibody status among prison entrants* (n = 528**) in publicly operated prisons in SA – October 2004 to August 2005 ..................122
Table 5.2-8: IDU history at prison entry (n=719) - October 2004 to August 2005 ............125
Table 5.2-9: Tattooing history at prison entry (n=719) - October 2004 to August 2005 ....127
Table 5.2-10: IDU history and HCV-antibody status at prison entry* (n=523**) - October 2004 to August 2005........................................................................................................................................................................129
Table 5.2-11: Tattooing history and HCV-antibody status at prison entry* (n=523**) - October 2004 to August 2005 .....................................................................................130
Table 5.2-12: HCV-antibody prevalence according to community risk behaviour and previous prison history at entry* (n=523**) .................................................................................................................................131
Table 5.2-13: Risk factors reported in previously incarcerated participants and HCV status at entry (n=416*) ......................................................................................................................................................132
Table 5.2-14: IDU, tattoos and HCV-antibody status in SA prison entrants* – multivariate analysis – (n=416**) ........................................................................................................................................133
Table 5.2-15: Community risks, prison history and HCV-antibody status in SA prison entrants* – multivariate analysis – (n=523**) ........................................................................134
Table 5.2-16: Demographic and risk factors and HCV-antibody status in SA prison entrants* – multivariate analysis – (n=412**) ..................................................................................134
Table 5.2-17: HCV risk behaviour reported at each three monthly follow up – (n=181*)....136
Table 5.2-18: Risk factors reported in participants at three month follow up and HCV status at entry (n=185*) .........................................................................................................................137
Table 5.2-19: Test and risk factors histories reported by new injecting initiates and HCV seroconverters ..........................................................................................................................138
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Publications

**Peer reviewed**


**Other**


**Conferences**

Miller ER, Bi P, Ryan P. HCV antibody prevalence in the South Australian prison system – results of a State wide audit [presentation]. *Public Health Association of Australia Mini Conference: Public Health in the Community* – Adelaide (22 October 2005)


Abstract
This thesis aimed to describe the epidemiology of HCV in South Australian prisons - prevalence, transmission and risk factors. This thesis also aimed to determine the impact of incarceration on reported risk behaviours. A related objective was to evaluate the epidemiological effectiveness of the ELISA-3 HCV antibody test using PCR as the gold standard. Finally, this thesis aimed to explore the potential for minimising HCV risk in the South Australian prison population.

Methods
Two case note audits were conducted at each of eight publicly operated SA prisons (in summer and winter) to identify any documented HCV-antibody test results. Prisoners recruited at entry to prison were offered tests for HCV-antibody and completed a pre-entry risk factor survey. Participants completed additional risk factor surveys and (if HCV-negative at last test) underwent further antibody tests at three-monthly intervals for up to 15 months. A sample of participants also provided blood specimens for HCV-RNA testing. Limited stakeholder consultations with prison officers and nurses were also conducted. Quantitative data were analysed using univariate and multivariate techniques.

Results
1347 case notes were audited in summer, and 1347 in winter and an overall HCV prevalence of 42% was estimated. In both univariate and multivariate analyses, HCV prevalence was significantly higher in female prisoners (65%), those aged above 28 years (48%), and in Indigenous prisoners originating from metropolitan areas (56%). Indigenous prisoners originating from remote areas had significantly lower HCV prevalence (20%).

666 prisoners were recruited at entry, and 42% were estimated to be HCV-antibody positive. Three seroconversions were noted in 151 initially HCV-seronegative negative individuals followed up for a median time of 121 days – a rate 4.6 per 100 person years – but community exposure could not be ruled out. Overall agreement between HCV-antibody and HCV-RNA assays was 86% (100% in the HCV negative samples) – kappa = 0.71.

Injecting history was highly prevalent in prison entrants (70%) and both community and prison injecting (but not tattooing) were independent predictors of entry HCV status. Prison
history was also independently associated with entry HCV status. Injecting in prison during the study was infrequently reported, but significantly more likely in those testing HCV-antibody positive at prison entry (risk ratio = 2.48, $P=0.046$).

Stakeholders were most supportive of strategies to increase education and to minimise risks associated with hair clippers, but did not support most other suggested preventive strategies. Other issues related to communicable diseases and infection control were explored in the stakeholder interviews.

**Conclusions**

HCV prevalence in South Australian prisoners is extremely high and may have contributed to a ‘ceiling effect’, minimising the seroconversion rate observed in this population. Injecting is relatively infrequently reported in prison, but more likely in those already infected with HCV. Thus, contaminated injecting equipment represents a significant threat to other prisoners and prison staff. Strategies aimed at reducing HCV risk in prisons, which address the concerns of those expected to implement them, are proposed in this thesis.
Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the University Library, being made available in all forms of media, now or hereafter known.

Name: Emma Ruth Miller  Signed: ____________________ Date: _____________
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