

Low hepatitis B  
vaccine coverage  
in a cohort of  
people who inject  
drugs in Sydney

UNSW  
MSNW



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ANEX, Oct 2009

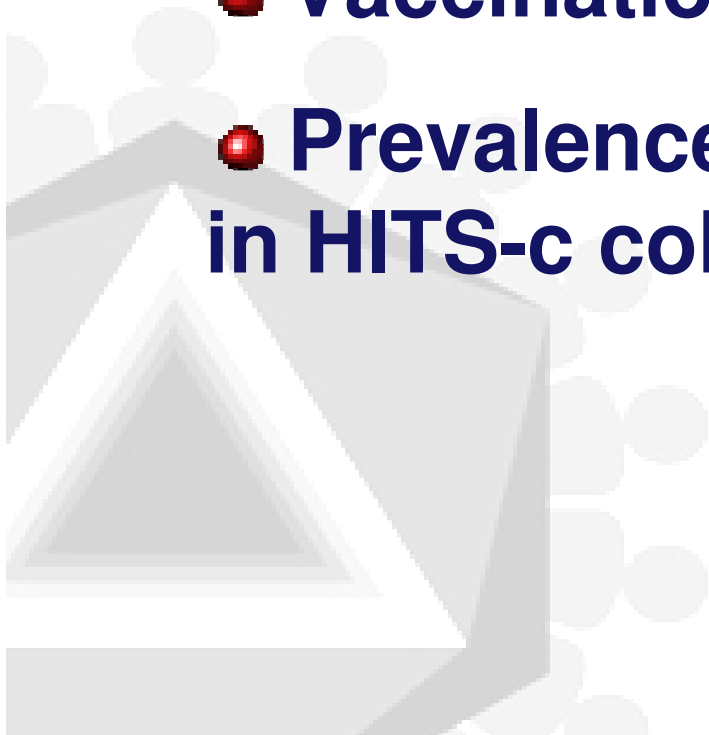
# Overview

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## Hepatitis B

- **Transmission and natural history**
- **Vaccination and coverage**
- **Prevalence and vaccination coverage in HITS-c cohort**



# Hepatitis B transmission & natural history

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- Found in blood, semen and saliva
- Sharing of injecting equipment & sex
- ~Half new HBV infections occur in PWID
- Chronic infection occurs in ~5-10% of adult infections
- Infectious, difficult to treat
- Of those chronically infected, 15-40% develop cirrhosis and/or primary liver cancer

# Hepatitis B vaccine

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- **95-99% efficacious in general population**
- **Safe**
- **Inexpensive ~\$45 course**
- **Long lasting**

## Vaccine schedule

- **Standard: 0, 1 & 6 months**
- **Accelerated: 0, 7 & 21 days**

# Hepatitis B vaccination policy

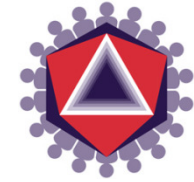


- **1983- recommended for high risks groups**
  - **Aboriginal people**
  - **People who inject drugs (PWID)**
  - **Prisoners**
- **1985- Babies born to positive mums**
- **2000- Universal infant program introduced (1<sup>st</sup> dose at birth)**
- **2004- Adolescent school-based “catch-up” program introduced in NSW (earlier in most other jurisdictions)**

# Vaccine coverage in PWID in Aust



<b>Sample</b>	<b>N</b>	<b>Previous infection</b>	<b>Vaccinated</b>	<b>Year</b>
<b>Sexual health, NSW</b>	<b>138</b>	<b>42</b>	<b>7</b>	<b>1995</b>
<b>Community, VIC</b>	<b>315</b>	<b>47</b>	<b>NA</b>	<b>1994</b>
<b>Prison entrants, VIC</b>	<b>1561</b>	<b>52</b>	<b>NA</b>	<b>1995</b>
<b>Community, VIC</b>	<b>626</b>	<b>45</b>	<b>NA</b>	<b>1997</b>
<b>Community, NSW</b>	<b>377</b>	<b>28</b>	<b>26</b>	<b>2004</b>
<b>PHC/MMT, NSW</b>	<b>209</b>	<b>57</b>	<b>26</b>	<b>2008</b>





# HITS- c

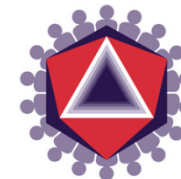
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- **Hepatitis C Incidence and Transmission Study-  
community**
- A longitudinal study of hepatitis C among young people who inject drugs
- To investigate
  - hepatitis C incidence and risk factors;
  - impact of existing risk reduction interventions;
  - factors that influence retention; and
  - acceptability of immunisation and willingness to participate in future hepatitis C vaccine trials.



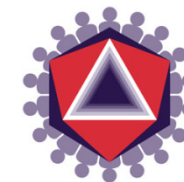
# HITS- c



- Outreach recruitment
- Purpose-designed van
- Five areas of Sydney
  - Liverpool/Cabramatta
  - Campbelltown
  - Penrith
  - Mt Druitt
  - Redfern



# HITS- c



- **Three-monthly Acceptability and Willingness to Participate interviews**
- **Six-monthly Drug Use and Risk Behaviour Assessment + blood collection**



<b>Week 45</b>	
Screened	n=162
HCV Ab +	37%
Eligible	n=100
<b>Enrolled</b>	<b>n=95</b>
Follow-up rate	
Three month	71/88 (81%)
Six month	48/63 (76%)
Nine month	27/38 (71%)

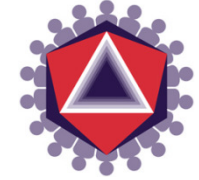
<b>Week 45</b>	<b>Enrolled n= 95</b>
<b>Demographic characteristics</b>	
Median age (range)	25 (16-40 years)
Male (%)	74
Identify as heterosexual (%)	92
Born in Australia (%)	80
Past -year testing (%) HIV HCV	46 53

<b>Week 45</b>	<b>Enrolled n= 95</b>
<b>Drug Use</b>	
Age first injected (median, range)	18 years (10-37)
Duration of injecting (median, range)	4 years (<1- 23)
Last drug injected - heroin (%)	46
Last drug injected - any methamphetamine (%)	44
Daily or more frequent injecting (%)	22
Reused another's syringe past month (%)	8
Current drug treatment - Methadone/bupe (%)	24
Prison past year (%)	21



# Hepatitis B in HITS-c

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- **Self reported testing**
  - **Ever (64%)**
  - **Past year (43%)**
- **Place commonly last tested**
  - **GP (35%), primary healthcare centre (16%)**
  - **prison (13%), hospital inpatient (10%)**
- **Serology results**
  - **vaccine-induced immunity (48%)**
  - **susceptible to hep B infection (46%)**
  - **previous infection (5%)**



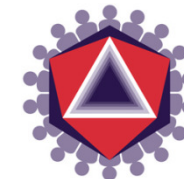
# **Hepatitis B vaccination in HITS-c**



- **45% self-reported having been vaccinated**
- **26% self-reported receiving  $\geq 3$  doses [although six (24%) were susceptible according to serology results]**
- **Reasons for never being vaccinated include**
  - **never offered**
  - **never given information/ didn't know about it**
  - **never got around to it**
  - **not at risk**



# Hepatitis B susceptibility



	n	% susceptible to hepatitis B	P value
<b>Overall</b>	<b>90</b>	<b>49</b>	<b>-</b>
Gender			
Male	68	49	ns
Female	22	50	
Age			
16-19	18	50	ns
20-24	29	45	
25-29	24	42	
30+	29	63	
Current treatment			
No	70	50	ns
Yes	20	45	
Ever been in prison			
No	47	53	ns
Yes	42	45	

## Hepatitis B susceptibility (cont.)



	n	% susceptible to hepatitis B	P value
Duration of injecting			
0-2 years	29	41	
3-5 years	28	57	
6-8 years	13	52	
9 + years	20	45	ns
Last drug injected			
Heroin	40	45	
Any methamphetamine	41	51	
Cocaine	2	50	
Other	7	57	ns
Frequency of injecting past month			
None	24	58	
Less than daily	47	47	
Daily or more often	19	42	ns
Yr 7 in 2004 (vaccine program introduced NSW)			
No	83	48	
Yes	7	57	ns

# Summary

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- **Results indicate almost half the HITS-c cohort remain susceptible to hepatitis B**
- **Hepatitis B remains an important issue for this group, other vaccination strategies required**
- **Despite introduction universal infant vaccination in program, impact not seen until 2020+**
- **Also can't assume at-risk young people captured in current school-based catch-up**
  - **Truancy and school drop-out**
  - **Parental consent**

# Conclusions

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- **Important to refer people for testing- even if people report having been vaccinated, important to confirm serostatus**
- **Continued promotion of screening and vaccination essential**
- **Particularly important to get hepatitis B right in preparation for hepatitis C and HIV candidate vaccine trials**





## HITS-c team

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