

Trends in decompensated cirrhosis and hepatocellular carcinoma among people with a hepatitis B notification in New South Wales

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Table S1: Time from HBV notification to decompensated cirrhosis diagnosis among people with alcohol use disorder (2000-2018), n=379

	HBV mono			HBV/HCV		
	All n= 196 (%)	2001-2009 n= 93 (%)	2010-2018 n= 103 (%)	All n= 183 (%)	2001-2009 n= 72 (%)	2010-2018 n= 111 (%)
≥5 years before DC ^a	95 (48)	34 (37)	61 (59)	110 (60)	33 (46)	77 (69)
2-5 years before DC	29 (15)	21 (22)	8 (8)	27 (15)	13 (18)	14 (13)
0-2 years before DC*	30 (16)	18 (19)	12 (12)	15 (8)	8 (11)	7 (6)
After/at DC	42 (21)	20 (22)	22 (21)	31 (17)	18 (25)	13 (12)

*combined 2 categories in T1 Supp, small cells

DC, Decompensated cirrhosis; HBV, Hepatitis B virus; HCV, Hepatitis C virus.

Table S2: Interaction between LHD of residence and HCV co-infection, in the adjusted model for factors associated with decompensated cirrhosis diagnosis (2009-2018) among people with an HBV notification (1993-2017) (n=668)

Characteristic, n %	DC n=668 [#]	aHR	95% CI	95% CI	P
Rural*HBV mono	61 (1)	1.00			
Outer metro*HBV mono	235 (1)	1.28	0.94	1.73	0.108
Metro*HBV mono	194 (1)	1.07	0.79	1.45	0.647
Rural*HBV/HCV co	49 (5)	2.08	1.42	3.05	<0.001
Outer metro*HBV/HCV co	77 (5)	2.42	1.73	3.40	<0.001
Metro*HBV/HCV co	41 (4)	1.74	1.17	2.59	0.006

[#]8 people with HBV/HIV co-infection were included in all adjusted models, but not displayed due to small numbers

DC, Decompensated cirrhosis; aHR, adjusted Hazard ratio; HBV, Hepatitis B virus; HCV, Hepatitis C virus

*interaction was adjusted for birth cohort, sex, ethnicity, country of birth, alcohol use disorder and Charlson Comorbidity Index
Levels of significance: p < 0.05 (cox proportional hazards regression analyses)

Table S3. Unadjusted analysis, evaluating factors associated with late HBV notification among people with decompensated cirrhosis and hepatocellular carcinoma, n=668

Characteristic, n %	Late HBV notification (DC), n=187	OR	95% CI	Late HBV notification (HCC), n=152	OR	95% CI
Age at HBV notification, by median						
<47 years	57 (17)	1.00		34 (11)	1.00	
≥47 years	130 (38)	2.96	2.07, 4.25	118 (39)	4.91	3.21, 7.50
Sex						
Female	47 (29)	1.00		24 (23)	1.00	
Male	140 (28)	0.93	0.62, 1.37	128 (26)	1.15	0.69, 1.89
Aboriginal and Torres Strait Islander *						
No	178 (30)	1.00		-	-	-
Yes	8 (12)	0.33	0.15, 0.71			
Country of birth						
Australia	57 (25)	1.00		20 (25)	1.00	
Americas/ Europe, New Zealand	27 (26)	1.05	0.62, 1.79	19 (26)	1.05	0.50, 2.18
Africa	7 (35)	1.92	0.71, 5.18			
East Asia	35 (30)	1.30	0.79, 2.14	50 (26)	1.07	0.59, 1.96
Oceania and Southeast Asia	50 (31)	1.33	0.85, 2.08	51 (24)	0.94	0.52, 1.71
Western Asia	9 (26)	1.04	0.46, 2.35	6 (23)	0.90	0.31, 2.55
Co-infection with HCV						
No	150 (30)	1.00		133 (26)	1.00	
Yes	37 (21)	0.61	0.41, 0.93	19 (22)	0.81	0.46, 1.39
LHD of residence at the time of HBV notification						
Rural NSW	27 (25)	1.00		14 (26)	1.00	
Outer metro NSW	88 (28)	1.20	0.73, 1.98	72 (25)	0.90	0.46, 1.76
Metro NSW	69 (29)	1.27	0.76, 2.14	65 (26)	0.96	0.49, 1.88
History of alcohol-use disorder						
No	132 (29)	1.00		132 (25)	1.00	
Yes	55 (26)	0.83	0.57, 1.20	20 (27)	1.09	0.63, 1.90
Period of DC/HCC diagnosis						
≤ 2013	108 (33)	1.00		82 (28)	1.00	
≥ 2014	79 (23)	0.59	0.42, 0.83	70 (22)	0.75	0.50, 1.05

DC, Decompensated cirrhosis; HCC, Hepatocellular carcinoma; OR, Odds ratio; HBV, Hepatitis B virus; HCV, Hepatitis C virus; LHD, Local Health District; CI, Confidence Interval

*not shown, small n (<5)

Levels of significance: p < 0.20 (logistic regression analysis)

Table S4. Unadjusted analysis, evaluating factors associated with decompensated cirrhosis and hepatocellular carcinoma diagnosis (2009-2018) among people with an HBV notification (1993-2017), n=60,660

Characteristic, n %	DC			HCC		
	n=668*	HR	95% CI	n=606*	HR	95% CI
Birth cohort						
Born ≥1965	167 (1)	1.00		94 (<1)	1.00	
Born 1945-1964	381 (2)	4.15	3.45, 4.99	386 (2)	7.30	5.83, 9.16
Born ≤1944	120 (2)	7.55	5.97, 9.55	125 (3)	13.68	10.47, 17.87
Sex						
Female	161 (1)	1.00		104 (1)	1.00	
Male	505 (2)	2.59	2.18, 3.09	498 (2)	4.01	3.25, 4.95
Aboriginal and Torres Strait Islander						
No	599 (1)	1.00		576 (1)	1.00	
Yes	65 (3)	2.19	1.70, 2.82	17 (1)	0.57	0.35, 0.93
Country of birth						
Australia	229 (3)	1.00		80 (1)	1.00	
Americas, Europe, New Zealand	104 (3)	0.99	0.78, 1.24	73 (2)	2.03	1.48, 2.79
Africa	18 (1)	0.43	0.27, 0.71	20 (1)	1.48	0.91, 2.42
East Asia	116 (1)	0.33	0.26, 0.41	188 (2)	1.68	1.29, 2.18
Oceania and Southeast Asia	163 (1)	0.46	0.38, 0.56	213 (2)	1.73	1.34, 2.23
Western Asia	35 (1)	0.43	0.30, 0.62	26 (1)	1.02	0.66, 1.58
Co-infection with HCV						
No	494 (1)	1.00		518 (1)	1.00	
Yes	174 (4)	5.55	4.68, 6.59	87 (2)	2.68	2.15, 3.36
LHD of residence at HBV						
Rural NSW	110 (2)	1.00		53 (1)	1.00	
Outer metro NSW	312 (1)	0.61	0.49, 0.75	293 (1)	1.20	0.90, 1.61
Metro NSW	235 (1)	0.48	0.39, 0.61	225 (1)	1.11	0.82, 1.49
History of alcohol-use disorder						
No	453 (1)	1.00		530 (1)	1.00	
Yes	215 (9)	14.48	12.32, 17.01	75 (3)	4.10	3.23, 5.22
†Charlson Comorbidity Index						
0	225 (1)	1.00		292 (1)	1.00	
1-2	169 (4)	5.84	4.79, 7.13	99 (2)	2.58	2.05, 3.24
3+	274 (9)	17.13	14.38, 20.40	210 (7)	10.26	8.60, 12.24

*8 people with HBV/HIV co-infection were included in all adjusted models, but not displayed due to small numbers

DC, Decompensated cirrhosis; HCC, Hepatocellular carcinoma; HR, Hazard ratio; HCV, Hepatitis C virus; LHD, Local Health District; NSW, New South Wales; CI, Confidence Interval

†Charlson Comorbidity Index score indicates degree of health; higher scores indicate worse health condition

Levels of significance: $p < 0.05$ (cox proportional hazards regression analyses)

Fig. S1. Sensitivity analysis of ESLD rates counting time at risk from 2005

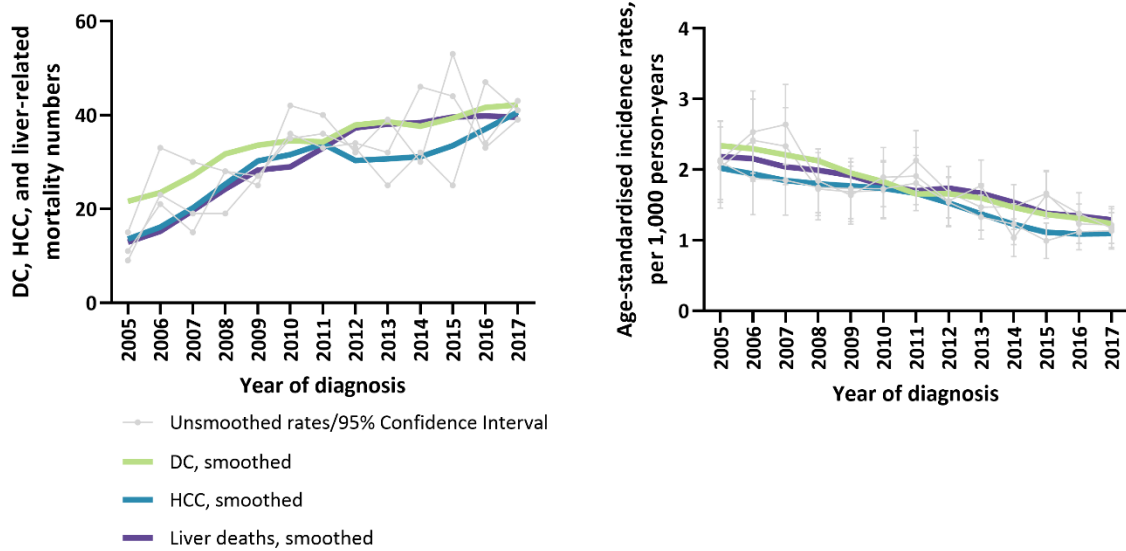
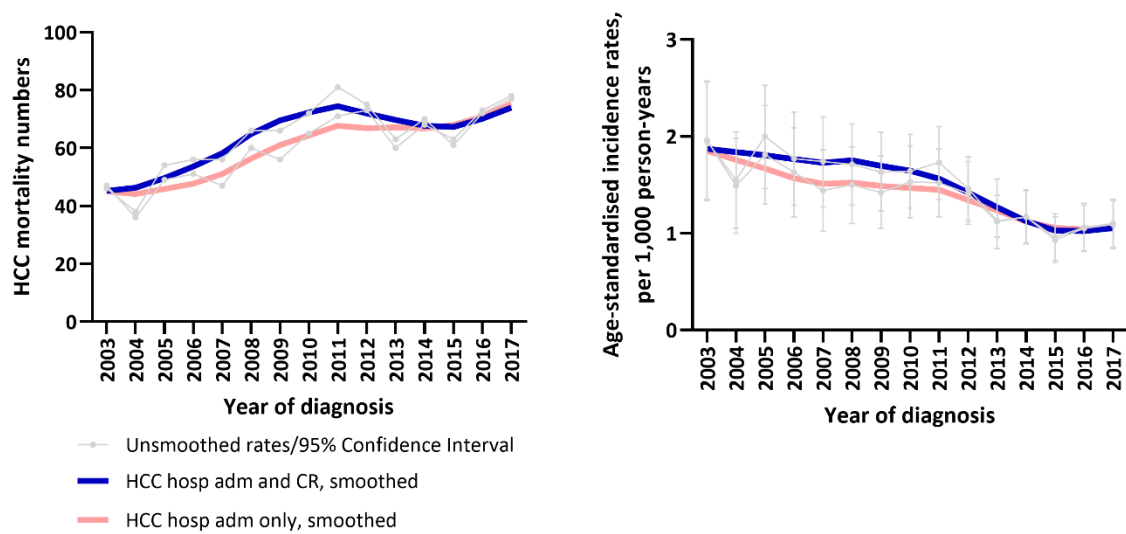


Fig. S2. Sensitivity analysis of HCC diagnosis (hospitalisation data and cancer registry data)



* The 2003-2017 was only chosen for visual display of data and study period was 2001-2018