

**Table S1.** Age-period-cohort (APC) model analysis results for global mortality of IDU-attributable cirrhosis.

Virables	Coef	95%CI	S.E.	RR	95%CI
Intercept	8.37	(8.36 - 8.38)	0.00		
Age					
15-19	-2.88	(-2.95, -2.82)	0.03	1.00	
20-24	-1.35	(-1.37, -1.32)	0.01	4.65	(4.49-4.82)
25-29	-0.51	(-0.53, -0.49)	0.01	10.70	(10.25-11.17)
30-34	0.15	(0.14, 0.17)	0.01	20.83	(19.87-21.83)
35-39	0.58	(0.57, 0.60)	0.01	32.03	(30.49-33.65)
40-44	0.86	(0.85, 0.87)	0.01	42.31	(40.20-44.53)
45-49	0.98	(0.97, 0.99)	0.01	47.78	(45.33-50.36)
50-54	0.98	(0.97, 0.99)	0.00	47.60	(45.12-50.22)
55-59	0.85	(0.84, 0.86)	0.00	41.84	(39.64-44.16)
60-64	0.65	(0.64, 0.66)	0.00	34.15	(32.35-36.04)
65-69	0.34	(0.33, 0.35)	0.01	25.21	(23.90-26.59)
70-74	-0.06	(-0.07, -0.05)	0.01	16.88	(16.03-17.78)
75-79	-0.59	(-0.61, -0.58)	0.01	9.88	(9.41-10.38)
Period					
1990	-0.59	(-0.59, -0.58)	0.00	1.00	
1995	-0.30	(-0.31, 0.29)	0.00	1.33	(1.33-1.33)
2000	-0.12	(-0.13, -0.12)	0.00	1.59	(1.58-1.59)
2005	0.14	(0.13, 0.14)	0.00	2.06	(2.06-2.07)
2010	0.33	(0.32, 0.33)	0.00	2.50	(2.49-2.50)
2015	0.54	(0.53, 0.55)	0.00	3.08	(3.08-3.09)
Cohort					
1915-1919	0.51	(0.47, 0.55)	0.02	1.00	
1920-1924	0.30	(0.27, 0.32)	0.01	0.81	(0.80-0.82)
1925-1929	0.43	(0.41, 0.45)	0.01	0.92	(0.90-0.94)
1930-1934	0.42	(0.40, 0.43)	0.01	0.91	(0.89-0.93)
1935-1939	0.29	(0.28, 0.31)	0.01	0.80	(0.78-0.82)
1940-1944	0.28	(0.26, 0.29)	0.01	0.79	(0.77-0.81)
1945-1949	0.10	(0.08, 0.11)	0.01	0.66	(0.64-0.68)
1950-1954	0.17	(0.15, 0.18)	0.01	0.71	(0.69-0.73)
1955-1959	0.23	(0.21, 0.24)	0.01	0.75	(0.73-0.77)
1960-1964	0.16	(0.15, 0.17)	0.01	0.70	(0.96-0.72)
1965-1969	0.04	(0.02, 0.05)	0.01	0.62	(0.61-0.64)
1970-1974	-0.14	(-0.16, -0.12)	0.01	0.52	(0.51-0.53)
1975-1979	-0.28	(-0.30, -0.26)	0.01	0.45	(0.44-0.46)
1980-1984	-0.37	(-0.39, -0.35)	0.01	0.41	(0.41-0.42)
1985-1989	-0.40	(-0.42, -0.37)	0.01	0.40	(0.40-0.41)
1990-1994	-0.45	(-0.48, -0.42)	0.02	0.38	(0.38-0.38)
1995-1999	-0.57	(-0.62, -0.52)	0.03	0.34	(0.34-0.34)
2000-2004	-0.71	(-0.86, 0.57)	0.07	0.29	(0.26-0.33)
Deviance	385.85				
AIC	16.05				
BIC	194.15				

Note: \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001; Coef.: Coefficient; S.E.: Standard error; RR: Relative risk; CI: Confidence interval; AIC: Akaike Information Criteria; BIC: Bayesian Information Criteria.

**Table S2.** Age-period-cohort (APC) model analysis results for global mortality of IDU-attributable liver cancer.

Virables	Coef	95%CI	S.E.	RR	95%CI
Intercept	6.83	(6.80 - 6.85)	0.01		
Age					
15-19	-2.48 ***	(-2.61, -2.34)	0.07	1.00	
20-24	-1.86 ***	(-1.95, -1.78)	0.04	1.85	(1.76-1.95)
25-29	-1.27 ***	(-1.33, -1.21)	0.03	3.33	(3.09-3.59)
30-34	-0.67 ***	(-0.72, -0.63)	0.02	6.07	(5.54-6.64)
35-39	-0.22 ***	(-0.26, -0.18)	0.02	9.57	(8.66-10.56)
40-44	0.24 ***	(0.21, 0.27)	0.02	15.07	(13.55-16.76)
45-49	0.65 ***	(0.62, 0.67)	0.01	22.78	(20.37-25.48)
50-54	0.95 ***	(0.93, 0.97)	0.01	30.66	(27.30-34.44)
55-59	1.09 ***	(1.08, 1.11)	0.01	35.53	(31.54-40.03)
60-64	1.12 ***	(1.11, 1.14)	0.01	36.63	(32.48-41.30)
65-69	1.01 ***	(0.99, 1.02)	0.01	32.54	(28.89-36.65)
70-74	0.85 ***	(0.83, 0.87)	0.01	27.93	(24.87-31.37)
75-79	0.60 ***	(0.57, 0.62)	0.01	21.60	(19.32-24.16)
Period					
1990	-0.72 ***	(-0.74, -0.70)	0.01	1.00	
1995	-0.41 ***	(-0.43, -0.40)	0.01	1.36	(1.36-1.37)
2000	-0.15 ***	(-0.16, -0.14)	0.01	1.78	(1.76-1.79)
2005	0.12 ***	(0.11, 0.13)	0.01	2.33	(2.31-2.35)
2010	0.41 ***	(0.40, 0.43)	0.01	3.11	(3.09-3.13)
2015	0.75 ***	(0.73, 0.76)	0.01	4.34	(4.32-4.36)
Cohort					
1915-1919	0.50	(0.45, 0.56)	0.03	1.00	
1920-1924	0.40	(0.36, 0.44)	0.02	0.90	(0.89-0.92)
1925-1929	0.58 ***	(0.55, 0.62)	0.02	1.08	(1.06-1.11)
1930-1934	0.61 ***	(0.58, 0.64)	0.01	1.11	(1.08-1.14)
1935-1939	0.55 ***	(0.52, 0.57)	0.01	1.05	(1.01-1.08)
1940-1944	0.51 ***	(0.49, 0.54)	0.01	1.01	(0.98-1.04)
1945-1949	0.41 ***	(0.38, 0.43)	0.01	0.91	(0.88-0.93)
1950-1954	0.50 ***	(0.47, 0.53)	0.01	0.99	(0.97-1.02)
1955-1959	0.59 ***	(0.56, 0.62)	0.02	1.09	(1.06-1.11)
1960-1964	0.44 ***	(0.41, 0.48)	0.02	0.94	(0.92-0.96)
1965-1969	0.30 ***	(0.26, 0.34)	0.02	0.82	(0.80-0.83)
1970-1974	0.12 ***	(0.07, 0.16)	0.02	0.68	(0.67-0.69)
1975-1979	-0.19 ***	(-0.25, -0.14)	0.03	0.50	(0.50-0.50)
1980-1984	-0.58 ***	(-0.64, -0.51)	0.03	0.34	(0.34-0.34)
1985-1989	-0.78 ***	(-0.86, -0.70)	0.04	0.28	(0.27-0.28)
1990-1994	-0.92 ***	(-1.02, -0.81)	0.05	0.24	(0.23-0.25)
1995-1999	-1.31 ***	(-1.48, -1.14)	0.08	0.16	(0.15-0.18)
2000-2004	-1.73 ***	(-2.10, -1.37)	0.19	0.11	(0.08-0.15)
Deviance	79.46				
AIC	10.70				
BIC	-112.23				

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; Coef.: Coefficient; S.E.: Standard error; RR: Relative risk; CI: Confidence interval; AIC: Akaike Information Criterion; BIC: Bayesian Information Criterion.