

## Supplementary material

**Table S1. Diagnostic codes used to define psychiatric disorders in the study according to ICD-10 and ICD-8<sup>a</sup>**

Disease group	ICD-10	ICD-8
<b>Any psychiatric disorder including substance use disorders</b>	F00-F99	290-315
Organic disorders		
Substance use disorders	F10-F19	261.00, 262.00 291.x9, 303.x9, 303.20, 303.28, 303.90 571.00, 571.01, 294.39, 304.xx
Alcohol use disorder	F10 E24.4, E52, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K85.2, K86.0, O35.4, Y57.3, Z50.2, Z71.4, Z72.1	261.00, 262.00 291.x9, 303.x9, 303.20, 303.28, 303.90 571.00, 571.01
Drug use disorder	F11-F19	294.39, 304.xx
Schizophrenia <sup>b</sup>	F20	295.xx
Schizophrenia spectrum disorders	F20-F29	295.x9, 296.89, 297.x9, 298.29, 298.99, 299.04, 299.05, 299.09, 301.83
Bipolar disorders <sup>c</sup>	F30-31	296.19, 296.39, 298.19
Depressive disorders <sup>c</sup>	F32-33	296.09, 296.29, 298.09, 300.49
Mood disorders	F30-F39	296.x9 (excluding 296.89), 298.09, 298.19, 300.49, 301.19
Neurotic disorders	F40-F48	300.x9 (excluding 300.49), 305.x9, 305.68, 307.99
Eating disorders	F50	306.50, 306.58, 306.59
Personality disorders	F60-62	301.x9 (excluding 301.19), 301.80, 301.81, 301.82, 301.84
Intellectual disabilities	F70-79	311.xx, 312.xx, 313.xx, 314.xx, 315.xx
Developmental disorders	F84	299.00, 299.01, 299.02, 299.03
Behavioral disorders	F90-F98	306.x9, 308.0x
<b>Substance use disorders:</b>		
Opioids	F11	304.0, 304.1
Cannabis	F12	304.5
Sedatives and hypnotics	F13	304.2, 304.3
Cocaine	F14	304.4
Amphetamine, ecstasy, and other stimulants	F15	304.6
Hallucinogens	F16	304.7
Nicotine	F17	
Inhalants	F18	304.8
Other psychoactive substances and multiple drug use	F19	304.9

<sup>a</sup>Diagnoses of mental disorders are defined primarily according to the study of Momen et al. 2020 (Momen et al., 2020). Alcohol use disorders and substance use disorders have been defined according to Bergman et al. 2020 (Bergman et al., 2020) and Pedersen et al. 2014 (Pedersen et al., 2014). ICD-8 codes have also been identified using of WHO's manual (Division of Mental Health World Health Organization, 1994). <sup>b</sup>Schizophrenia is a subgroup of schizophrenia spectrum disorder. <sup>c</sup>Bipolar and depressive disorder are subgroups of mood disorders.

**Table S2. Cumulative probability of (a) sheltered homelessness and of (b) any psychiatric disorder by 1, 5, 10, and 20 years.**

<b>a</b>		<b>Cumulative incidence function (CIF) of a homeless shelter contact during follow-up</b>									
		<b>Cases</b>	<b>Persons</b>	<b>1 year</b>		<b>5 years</b>		<b>10 years</b>		<b>20 years</b>	
				<b>CIF</b>	<b>(95% CI)</b>	<b>CIF</b>	<b>(95% CI)</b>	<b>CIF</b>	<b>(95% CI)</b>	<b>CIF</b>	<b>(95% CI)</b>
<b>Exposure/matched comparison group</b>											
<b>Any psychiatric disorder</b>	5012	211,843	0.49	(0.46-0.52)	1.80	(1.74-1.86)	3.01	(2.92-3.10)	4.70	(4.47-4.93)	
<b>General population comparisons</b>	6183	106,4825	0.07	(0.06-0.07)	0.39	(0.38-0.41)	0.75	(0.73-0.77)	1.31	(1.25-1.37)	

<b>b</b>		<b>Cumulative incidence function (CIF) of any psychiatric disorder during follow-up</b>									
		<b>Cases</b>	<b>Persons</b>	<b>1 year</b>		<b>5 years</b>		<b>10 years</b>		<b>20 years</b>	
				<b>CIF</b>	<b>(95% CI)</b>	<b>CIF</b>	<b>(95% CI)</b>	<b>CIF</b>	<b>(95% CI)</b>	<b>CIF</b>	<b>(95% CI)</b>
<b>Exposure/matched comparison group</b>											
<b>Any homeless shelter contact</b>	1655	4279	15.17	(14.09-16.28)	35.57	(34.01-37.14)	47.14	(45.30-48.96)	53.38	(51.04-55.65)	
<b>General population comparisons</b>	3701	47,470	1.37	(1.27-1.48)	6.38	(6.13-6.63)	11.09	(10.72-11.47)	16.39	(15.34-17.47)	

**Table S3. Incidence rate ratio of sheltered homelessness by psychiatric disorders**

	<b>Cases</b>	<b>Person-years</b>	<b>IR</b>	<b>IRR*</b>	<b>(95% CI)</b>
<b>Any psychiatric disorder</b>	11,433	16,787,562	0.7		
Yes	7169	2,678,839	2.7	9.2	(8.8-9.6)
No	4264	14,108,723	0.3	1	
<b>Organic disorders</b>					
Yes	165	31,660	5.2	6.8	(5.9-8.0)
No	11,268	16,755,901	0.7	1	
<b>Alcohol use disorder</b>					
Yes	2081	485,569	4.3	6.8	(6.4-7.1)
No	9352	16,301,993	0.6	1	
<b>Drug use disorder</b>					
Yes	3293	291,913	11.3	20.6	(19.7-21.4)
No	8140	16,495,648	0.5	1	
<b>Schizophrenia spectrum disorder</b>					
Yes	1420	198,177	7.2	10.2	(9.6-10.8)
No	10,013	16,589,385	0.6	1	
<b>Schizophrenia</b>					
Yes	663	93,520	7.1	9.0	(8.3-9.7)
No	10,770	16,694,041	0.6	1	
<b>Mood disorders</b>					
Yes	1514	505,428	3.0	5.6	(5.3-6.0)
No	9919	16,282,133	0.6	1	
<b>Bipolar disorder</b>					
Yes	214	43,666	4.9	7.5	(6.6-8.6)
No	11,219	16,743,896	0.7	1	
<b>Depressive disorder</b>					
Yes	1320	463,345	2.8	5.3	(5.0-5.6)
No	10,113	16,324,217	0.6	1	
<b>Neurotic disorder</b>					
Yes	3398	1,071,380	3.2	7.0	(6.7-7.3)
No	8035	15,716,181	0.5	1	
<b>Eating disorder</b>					
Yes	217	180,188	1.2	2.5	(2.2-2.9)
No	11,216	16,607,374	0.7	1	
<b>Personality disorder</b>					
Yes	1375	290,871	4.7	9.5	(9.0-10.1)
No	10,058	16,496,690	0.6	1	
<b>Disability disorder</b>					
Yes	485	158,789	3.1	4.1	(3.7-4.5)
No	10,948	16,628,773	0.7	1	
<b>Developmental disorder</b>					
Yes	330	254,770	1.3	1.9	(1.7-2.1)
No	11,103	16,532,791	0.7	1	
<b>Behavioural disorder</b>					
Yes	3359	879,890	3.8	7.8	(7.5-8.1)
No	8074	15,907,672	0.5	1	
<b>Specific drug use disorders</b>					

<b>Opioids</b>					
Yes	258	7663	33.7	43.5	(38.4-49.2)
No	11,175	16,779,899	0.7	1	
<b>Cannabis</b>					
Yes	1871	122195	15.3	21.2	(20.1-22.3)
No	9562	16,665,367	0.6	1	
<b>Sedatives and hypnotics</b>					
Yes	196	7430	26.4	35.1	(30.5-40.4)
No	11,237	16,780,132	0.7	1	
<b>Cocaine</b>					
Yes	514	24,050	21.4	23.7	(21.7-25.9)
No	10,919	16,763,512	0.7	1	
<b>Amphetamine, ecstasy, and other stimulants</b>					
Yes	489	25,068	19.5	25.5	(23.3-27.9)
No	10,944	16,762,494	0.7	1	
<b>Hallucinogens</b>					
Yes	60	3671	16.3	17.8	(13.8-23.0)
No	11,373	16,783,891	0.7	1	
<b>Nicotine</b>					
Yes	266	96,876	2.7	4.0	(3.5-4.5)
No	11,167	16,690,685	0.7	1	
<b>Inhalants</b>					
Yes	42	3092	13.6	18.8	(13.9-25.4)
No	11,391	16,784,470	0.7	1	
<b>Other psychoactive substances and multiple drug use</b>					
Yes	1493	68,878	21.7	30.5	(28.9-32.3)
No	9940	16,718,684	0.6	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for sex, age, calendar year, and country of origin.

**Table S4. Sensitivity analysis of the association between substance use disorders and the incidence rate ratio of sheltered homelessness**

	Cases	Person-years	IR	IRR <sup>a</sup>	(95% CI)
<b>Total</b>	11,433	16,787,562	0.7		
<b>Any alcohol use disorder incl. treatment registers<sup>b</sup></b>					
Yes	2124	495,084	4.3	6.8	(6.5-7.1)
No	9309	16,292,477	0.6	1	
<b>Any drug use disorder incl. treatment registers<sup>c</sup></b>					
Yes	4642	412,355	11.3	24.7	(23.7-25.7)
No	6791	16,375,207	0.4	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for sex, age, calendar year, and country of origin. <sup>b</sup>Information on alcohol use disorders was besides from information from the Danish Psychiatric Central Research Register and the Danish National Patient Register also based on records from the National Registry of Alcohol Treatment. <sup>c</sup>Information on drug use disorder was besides from information from the Danish Psychiatric Central Research Register and the Danish National Patient Register also based on records from the Registry of Drug Abusers Undergoing Treatment and the National Register on Treatment with Heroin and Methadone.

**Table S5. Incidence rate ratio of sheltered homelessness by psychiatric disorders in males**

	Cases	Person-years	IR	IRR <sup>a</sup>	(95% CI)
	7883	8,583,547	0.9		
<b>Psychiatric disorders</b>					
Yes	4885	1,317,877	3.7	8.9	(8.5-9.3)
No	2998	7,265,669	0.4	1	
<b>Organic disorders</b>					
Yes	115	17,282	6.7	6.4	(5.3-7.7)
No	7768	8,566,265	0.9	1	
<b>Alcohol use disorder</b>					
Yes	1467	275,002	5.3	6.2	(5.9-6.6)
No	6416	8,308,545	0.8	1	
<b>Drug use disorder</b>					
Yes	2420	160,549	15.1	20.3	(19.4-21.4)
No	5463	8,422,998	0.6	1	
<b>Schizophrenia spectrum disorder</b>					
Yes	980	102,895	9.5	9.6	(9.0-10.3)
No	6903	8,480,652	0.8	1	
<b>Schizophrenia</b>					
Yes	452	49,829	9.1	8.1	(7.4-9.0)
No	7431	8,533,718	0.9	1	
<b>Mood disorders</b>					
Yes	830	160,990	5.2	5.6	(5.2-6.1)
No	7053	8,422,557	0.8	1	
<b>Bipolar disorder</b>					
Yes	128	15,903	8.0	7.7	(6.4-9.1)
No	7755	8,567,644	0.9	1	
<b>Depressive disorder</b>					
Yes	708	143,680	4.9	5.3	(4.9-5.7)
No	7175	8,439,867	0.9	1	
<b>Neurotic disorder</b>					
Yes	1960	389,516	5.0	6.5	(6.2-6.9)
No	5923	8,194,031	0.7	1	
<b>Eating disorder</b>					
Yes	33	16,557	2.0	2.1	(1.5-3.0)
No	7850	8,566,990	0.9	1	
<b>Personality disorder</b>					
Yes	641	75,153	8.5	9.1	(8.4-9.9)
No	7242	8,508,394	0.9	1	
<b>Disability disorder</b>					
Yes	323	96,884	3.3	3.5	(3.1-3.9)
No	7560	8,486,663	0.9	1	
<b>Developmental disorder</b>					
Yes	255	184,215	1.4	1.7	(1.5-1.9)
No	7628	8,399,332	0.9	1	
<b>Behavioural disorder</b>					

Yes	2399	537,785	4.5	7.1	(6.8-7.5)
No	5484	8,045,762	0.7	1	
<b>Specific drug use disorders</b>					
<b>Opioids</b>					
Yes	170	4122	41.2	38.1	(32.7-44.4)
No	7713	8,579,424	0.9	1	
<b>Cannabis</b>					
Yes	1415	82,414	17.2	18.9	(17.8-20.0)
No	6468	8,501,133	0.8	1	
<b>Sedatives and hypnotics</b>					
Yes	135	4197	32.2	31.3	(26.4-37.2)
No	7748	8,579,350	0.9	1	
<b>Cocaine</b>					
Yes	388	17,183	22.6	20.1	(18.1-22.3)
No	7495	8,566,363	0.9	1	
<b>Amphetamine, ecstasy, and other stimulants</b>					
Yes	367	16,273	22.6	22.9	(20.6-25.5)
No	7516	8,567,274	0.9	1	
<b>Hallucinogens</b>					
Yes	47	2806	16.7	15.2	(11.4-20.3)
No	7836	8,580,740	0.9	1	
<b>Nicotine</b>					
Yes	145	30,518	4.8	4.0	(3.4-4.7)
No	7738	8,553,028	0.9	1	
<b>Inhalants</b>					
Yes	28	1850	15.1	16.3	(11.2-23.6)
No	7855	8,581,697	0.9	1	
<b>Other psychoactive substances and multiple drug use</b>					
Yes	1102	45,327	24.3	27.0	(25.3-28.8)
No	6781	8,538,219	0.8	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin.

**Table S6 Incidence rate ratios of sheltered homelessness by psychiatric disorders in females**

	Cases	Person-years	IR	IRR <sup>a</sup>	(95% CI)
<b>Total</b>	3550	8,204,015	0.4		
<b>Psychiatric disorders</b>					
Yes	2284	1,360,962	1.7	10.1	(9.5-10.9)
No	1266	6,843,053	0.2	1	
<b>Organic disorders</b>					
Yes	50	14,378	3.5	8.3	(6.3-10.9)
No	3500	8,189,637	0.4	1	
<b>Alcohol use disorder</b>					
Yes	614	210,567	2.9	8.3	(7.6-9.1)
No	2936	7,993,448	0.4	1	
<b>Drug use disorder</b>					
Yes	873	131,364	6.6	21.3	(19.7-23.1)
No	2677	8,072,651	0.3	1	
<b>Schizophrenia spectrum disorder</b>					
Yes	440	95,282	4.6	11.8	(10.6-13.0)
No	3110	8,108,733	0.4	1	
<b>Schizophrenia</b>					
Yes	211	43,691	4.8	11.4	(9.9-13.2)
No	3339	8,160,324	0.4	1	
<b>Mood disorders</b>					
Yes	684	344,438	2.0	6.0	(5.5-6.5)
No	2866	7,859,577	0.4	1	
<b>Bipolar disorder</b>					
Yes	86	27,763	3.1	7.9	(6.3-9.8)
No	3464	8,176,251	0.4	1	
<b>Depressive disorder</b>					
Yes	612	319,665	1.9	5.6	(5.1-6.2)
No	2938	7,884,350	0.4	1	
<b>Neurotic disorder</b>					
Yes	1438	681,864	2.1	8.0	(7.5-8.6)
No	2112	7,522,151	0.3	1	
<b>Eating disorder</b>					
Yes	184	163,631	1.1	2.8	(2.4-3.3)
No	3366	8,040,384	0.4	1	
<b>Personality disorder</b>					
Yes	734	215,719	3.4	10.9	(10.1-11.9)
No	2816	7,988,296	0.4	1	
<b>Disability disorder</b>					
Yes	162	61,905	2.6	6.0	(5.2-7.1)
No	3388	8,142,110	0.4	1	
<b>Developmental disorder</b>					
Yes	75	70,555	1.1	3.0	(2.4-3.8)
No	3475	8,133,460	0.4	1	
<b>Behavioural disorder</b>					
Yes	960	342,105	2.8	9.8	(9.1-10.6)
No	2590	7,861,910	0.3	1	
<b>Specific drug use disorders</b>					
<b>Opioids</b>					



Yes	88	3541	24.9	57.9	(46.8-71.7)
No	3462	8,200,474	0.4	1	
<b>Cannabis</b>					
Yes	456	39,781	11.5	30.1	(27.2-33.3)
No	3094	8,164,234	0.4	1	
<b>Sedatives and hypnotics</b>					
Yes	61	3233	18.9	45.0	(34.9-58.0)
No	3489	8,200,782	0.4	1	
<b>Cocaine</b>					
Yes	126	6866	18.4	42.7	(35.7-51.1)
No	3424	8,197,149	0.4	1	
<b>Amphetamine, ecstasy, and other stimulants</b>					
Yes	122	8795	13.9	34.3	(28.6-41.1)
No	3428	8,195,220	0.4	1	
<b>Hallucinogens</b>					
Yes	13	864	15.0	36.9	(21.4-63.7)
No	3537	8,203,151	0.4	1	
<b>Nicotine</b>					
Yes	121	66,358	1.8	4.3	(3.6-5.2)
No	3429	8,137,657	0.4	1	
<b>Inhalants</b>					
Yes	14	1242	11.3	25.9	(15.3-43.8)
No	3536	8,202,773	0.4	1	
<b>Other psychoactive substances and multiple drug use</b>					
Yes	391	23,550	16.6	43.1	(38.8-48.0)
No	3159	8,180,465	0.4	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin.

**Table S7. Incidence rate ratio of psychiatric disorders by sheltered homelessness**

	Cases	Person-years	IR	IRR <sup>a</sup>	(95% CI)
<b>Any psychiatric disorder</b>	210,730	14,131,060	14.9		
Homelessness	1655	21,777	76.0	7.0	(6.7-7.4)
No homelessness	209,075	14,109,283	14.8	1	
<b>Organic disorders</b>	3394	16,829,828			
Homelessness	143	73,948	1.9	9.1	(7.7-10.8)
No homelessness	3251	16,755,879	0.2	1	
<b>Alcohol use disorder</b>	43,503	16,359,868			
Homelessness	948	57,785	16.4	10.5	(9.8-11.2)
No homelessness	42,555	16,302,084	2.6	1	
<b>Drug use disorder</b>	41,771	16,542,484			
Homelessness	1769	46,748	37.8	15.3	(14.6-16.1)
No homelessness	40,002	16,495,735	2.4	1	
<b>Schizophrenia spectrum disorder</b>	27,155	16,651,218			
Homelessness	1084	61,790	17.5	12.2	(11.5-13.0)
No homelessness	26,071	16,589,429	1.6	1	
<b>Schizophrenia</b>	13,335	16,761,580			
Yes	740	67,534	11.0	14.7	(13.7-15.9)
No	12,595	16,694,046	0.8	1	
<b>Mood disorders</b>	66,325	16,345,131	4.1		
Yes	712	62,845	11.3	3.5	(3.2-3.8)
No	65,613	16,282,286	4.0	1	
<b>Bipolar disorder</b>	7461	16,817,816			
Homelessness	164	73,931	2.2	4.7	(4.0-5.4)
No homelessness	7297	16,743,885	0.4	1	
<b>Depressive disorder</b>	60,393	16,388,856			
Homelessness	591	64,503	9.2	3.2	(2.9-3.4)
No homelessness	59,802	16,324,353	3.7	1	
<b>Neurotic disorder</b>	116,750	15,764,153			
Homelessness	1506	47,678	31.6	5.7	(5.5-6.0)
No homelessness	115,244	15,716,475	7.3	1	
<b>Eating disorder</b>	16,000	16,681,582			
Homelessness	69	74,196	0.9	2.4	(1.9-3.1)
No homelessness	15,931	16,607,387	1.0	1	
<b>Personality disorder</b>	37,190	16,557,752			
Homelessness	937	60,990	15.4	9.9	(9.2-10.5)
No homelessness	36,253	16,496,762	2.2	1	
<b>Intellectual disorder</b>	6979	16,700,852			
Homelessness	196	72,090	2.7	10.5	(9.1-12.2)
No homelessness	6783	16,628,762	0.4	1	
<b>Developmental disorder</b>	16,067	16,606,503			
Homelessness	126	73,698	1.7	3.4	(2.8-4.0)
No homelessness	15,941	16,532,804	1.0	1	
<b>Behavioural disorder</b>	50,724	15,957,368			
Homelessness	1169	49,583	23.6	12.0	(11.3-12.7)
No homelessness	49,555	15,907,785	3.1	1	
<b>Specific drug use disorders</b>					
<b>Opioids</b>	1780	16,852,301			
Homelessness	399	72,430	5.5	48.3	(43.0-54.4)

No homelessness	1381	16,779,872	0.1	1	
<b>Cannabis</b>	18,813	16,723,582			
Homelessness	1222	58,194	21.0	21.0	(19.8-22.3)
No homelessness	17,591	16,665,389	1.1	1	
<b>Sedatives and hypnotics</b>	1525	16,853,568			
Homelessness	274	73,463	3.7	41.8	(36.4-48.0)
No homelessness	1251	16,780,105	0.1	1	
<b>Cocaine</b>	4947	16,834,905			
Homelessness	515	71,411	7.2	18.6	(17.0-20.5)
No homelessness	4432	16,763,494	0.3	1	
<b>Amphetamine, ecstasy, and other stimulants</b>	4947	16,834,905			
Homelessness	529	70,581	7.5	30.2	(27.5-33.2)
No homelessness	3785	16,762,474	0.2	1	
<b>Hallucinogens</b>	559	16,859,099			
Homelessness	40	75,238	0.5	19.1	(13.7-26.7)
No homelessness	519	16,783,861	0.0	1	
<b>Nicotine</b>	13,107	16,763,045			
Homelessness	306	72,356	4.2	5.0	(4.5-5.6)
No homelessness	12,801	16,690,690	0.8	1	
<b>Inhalants</b>	198	16,859,842			
Homelessness	17	75,403	0.2	27.2	(16.0-46.2)
No homelessness	181	16,784,439	0.0	1	
<b>Other psychoactive substances and multiple drug use</b>	10,451	16,779,345			
Homelessness	1055	60,663	17.4	34.8	(32.6-37.2)
No homelessness	9396	16,718,683	0.6	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin.

**Table S8. Sensitivity analysis of the association between sheltered homelessness and substance use disorders**

	<b>Cases</b>	<b>Person-years</b>	<b>IR</b>	<b>IRR<sup>a</sup></b>	<b>(95% CI)</b>
<b>Any alcohol use disorder<sup>b</sup></b>	44,484	16,350,083	2.7		
Homelessness	953	57,512	16.6	10.3	(9.7-11.0)
No homelessness	43,531	16,292,571	2.7	1	
<b>Any drug use disorder<sup>c</sup></b>	59,590	16,412,968	3.6		
Homelessness	1871	37,621	49.7	14.6	(14.0-15.3)
No homelessness	57,719	16,375,346	3.5	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin. <sup>b</sup>Information on alcohol use disorders was besides from information from the Danish Psychiatric Central Research Register and the Danish National Patient Register also based on records from the National Registry of Alcohol Treatment. <sup>c</sup>Information on drug use disorder was besides from information from the Danish Psychiatric Central Research Register and the Danish National Patient Register also based on records from the Registry of Drug Abusers Undergoing Treatment and the National Register on Treatment with Heroin and Methadone.

**Table S9. Incidence rate ratio of psychiatric disorder by sheltered homelessness in males**

	Cases	Person-years	IR	IRR*	(95% CI)
<b>Any psychiatric disorder</b>	89,187	7,279,997	12.3		
Homelessness	1147	14,094	81.4	7.9	(7.5-8.4)
No homelessness	88,040	7,265,902	12.1	1	
<b>Organic disorders</b>	1723	8,614,839	0.2		
Homelessness	106	48,591	2.2	10.6	(8.7-13.0)
No homelessness	1617	8,566,248	0.2	1	
<b>Alcohol use disorder</b>	25,518	8,345,624	3.1		
Homelessness	713	37,029	19.3	10.3	(9.5-11.1)
No homelessness	24,805	8,308,595	3.0	1	
<b>Drug use disorder</b>	24,321	8,451,839	2.9		
Homelessness	1325	28,793	46.0	16.4	(15.5-17.3)
No homelessness	22,996	8,423,046	2.7	1	
<b>Schizophrenia spectrum disorder</b>	14,646	8,520,519	1.7		
Homelessness	833	39,848	20.9	12.6	(11.7-13.5)
No homelessness	13,813	8,480,671	1.6	1	
<b>Schizophrenia</b>	7336	8,577,546	0.9		
Homelessness	578	43,830	13.2	15.4	(14.1-16.8)
No homelessness	6758	8,533,716	0.8	1	
<b>Mood disorders</b>	22,392	8,465,707	2.6		
Homelessness	392	43,109	9.1	3.3	(3.0-3.7)
No homelessness	22,000	8,422,598	2.6	1	
<b>Bipolar disorder</b>	2712	8,616,465	0.3		
Homelessness	89	48,834	1.8	4.5	(3.7-5.6)
No homelessness	2623	8,567,630	0.3	1	
<b>Depressive disorder</b>	19,933	8,483,963	2.3		
Homelessness	323	44,063	7.3	3.1	(2.7-3.4)
No homelessness	19,610	8,439,901	2.3	1	
<b>Neurotic disorder</b>	42,696	8,228,128	5.2		
Homelessness	964	33,999	28.4	5.8	(5.4-6.2)
No homelessness	41,732	8,194,129	5.1	1	
<b>Eating disorder</b>	936	8,616,655	0.1		
Homelessness	11	49,684	0.2	3.6	(2.0-6.6)
No homelessness	925	8,566,971	0.1	1	
<b>Personality disorder</b>	9855	8,550,678	1.2		
Homelessness	545	42,278	12.9	11.5	(10.5-12.6)
No homelessness	9310	8,508,400	1.1	1	
<b>Intellectual disorder</b>	3688	8,533,896	0.4		
Homelessness	138	47,244	2.9	11.4	(9.5-13.6)
No homelessness	3550	8,486,652	0.4	1	
<b>Developmental disorder</b>	9213	8,447,559	1.1		
Homelessness	93	48,223	1.9	3.3	(2.7-4.1)
No homelessness	9120	8,399,336	1.1	1	
<b>Behavioural disorder</b>	23,701	8,076,900	2.9		
Homelessness	838	31,091	27.0	12.9	(12.1-13.9)
No homelessness	22,863	8,045,809	2.8	1	
<b>Specific drug use disorders</b>					
<b>Opioids</b>	1142	8,627,081	0.1		
Homelessness	280	47,675	5.9	41.9	(36.4-48.3)

No homelessness	862	8,579,406	0.1	1	
<b>Cannabis</b>	13,127	8,537,482	1.5		
Homelessness	968	36,334	26.6	19.7	(18.5-21.1)
No homelessness	12,159	8,501,148	1.4	1	
<b>Sedatives and hypnotics</b>	987	8,627,567	0.1		
Homelessness	203	48,236	4.2	38.5	(32.7-45.2)
No homelessness	784	8,579,331	0.1	1	
<b>Cocaine</b>	3717	8,612,979	0.4		
Homelessness	402	46,627	8.6	15.7	(14.1-17.5)
No homelessness	3315	8,566,352	0.4	1	
<b>Amphetamine, ecstasy, and other stimulants</b>	3021	8,613,311	0.4		
Homelessness	419	46,050	9.1	27.2	(24.5-30.3)
No homelessness	2602	8,567,261	0.3	1	
<b>Hallucinogens</b>	442	8,630,147	0.1		
Homelessness	34	49,427	0.7	17.8	(12.4-25.5)
No homelessness	408	8,580,720	0.0	1	
<b>Nicotine</b>	4166	8,601,309	0.5		
Homelessness	144	48,291	3.0	4.7	(4.0-5.6)
No homelessness	4022	8,553,018	0.5	1	
<b>Inhalants</b>	133	8,631,259	0.0		
Homelessness	15	49,584	0.3	33.5	(18.7-59.9)
No homelessness	118	8,581,676	0.0	1	
<b>Other psychoactive substances and multiple drug use</b>	7359	8,576,630	0.9		
Homelessness	841	38,411	21.9	32.1	(29.8-34.6)
No homelessness	6518	8,538,219	0.8	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin.

**Table S10. Incidence rate ratio of psychiatric disorder by sheltered homelessness in females**

	Cases	Person-years	IR	IRR <sup>a</sup>	(95% CI)
<b>Any psychiatric disorder</b>	121,543	6,851,063	17.7		
Homelessness	508	7682	66.1	5.4	(5.0-5.9)
No homelessness	121,035	6,843,381	17.7	1	
<b>Organic disorders</b>	1671	8,214,988	0.2		
Homelessness	37	25,357	1.5	6.7	(4.8-9.3)
No homelessness	1634	8,189,631	0.2	1	
<b>Alcohol use disorder</b>	17,985	8,014,244	2.2		
Homelessness	235	20,756	11.3	10.4	(9.1-11.8)
No homelessness	17,750	7,993,489	2.2	1	
<b>Drug use disorder</b>	17,450	8,090,645	2.2		
Homelessness	444	17,955	24.7	12.8	(11.6-14.1)
No homelessness	17,006	8,072,690	2.1	1	
<b>Schizophrenia spectrum disorder</b>	12,509	8,130,700	1.5		
Homelessness	251	21,942	11.4	10.2	(9.0-11.6)
No homelessness	12,258	8,108,758	1.5	1	
<b>Schizophrenia</b>	5999	8184035	0.7		
Homelessness	162	23,704	6.8	11.9	(10.2-13.9)
No homelessness	5837	8,160,331	0.7	1	
<b>Mood disorders</b>	43,933	7,879,424	5.6		
Homelessness	320	19,736	16.2	3.4	(3.1-3.9)
No homelessness	43,613	7,859,688	5.5	1	
<b>Bipolar disorder</b>	4749	8,201,352	0.6		
Homelessness	75	25,097	3.0	4.7	(3.7-5.9)
No homelessness	4674	8,176,255	0.6	1	
<b>Depressive disorder</b>	40,460	7,904,892	5.1		
Homelessness	268	20,441	13.1	3.1	(2.7-3.5)
No homelessness	40,192	7,884,452	5.1	1	
<b>Neurotic disorder</b>	74,054	7,536,025	9.8		
Homelessness	542	13,679	39.6	5.2	(4.8-5.7)
No homelessness	73,512	7,522,346	9.8	1	
<b>Eating disorder</b>	15,064	8,064,928	1.9		
Homelessness	58	24,512	2.4	2.3	(1.8-3.0)
No homelessness	15,006	8,040,415	1.9	1	
<b>Personality disorder</b>	27,335	8,007,074	3.4		
Homelessness	392	18,712	20.9	7.9	(7.1-8.7)
No homelessness	26,943	7,988,362	3.4	1	
<b>Intellectual disorder</b>	3291	8,166,955	0.4		
Homelessness	58	24,846	2.3	9.4	(7.2-12.3)
No homelessness	3233	8,142,110	0.4	1	
<b>Developmental disorder</b>	6854	8,158,944	0.8		
Homelessness	33	25,475	1.3	3.4	(2.4-4.8)
No homelessness	6821	8,133,469	0.8	1	
<b>Behavioural disorder</b>	27,023	7,880,468	3.4		
Homelessness	331	18,492	17.9	9.5	(8.5-10.6)
No homelessness	26,692	7,861,976	3.4	1	
<b>Specific drug use disorders</b>					
<b>Opioids</b>	638	8,225,221	0.1		
Homelessness	119	24,755	4.8	66.5	(53.8-82.1)

No homelessness	519	8,200,466	0.1	1	
<b>Cannabis</b>	5686	8,186,100	0.7		
Homelessness	254	21,860	11.6	25.1	(22.0-28.5)
No homelessness	5432	8,164,240	0.7	1	
<b>Sedatives and hypnotics</b>	538	8,226,001	0.1		
Homelessness	71	25,227	2.8	50.6	(38.9-65.7)
No homelessness	467	8,200,774	0.1	1	
<b>Cocaine</b>	1230	8,221,926	0.1		
Homelessness	113	24,784	4.6	37.0	(30.3-45.3)
No homelessness	1117	8,197,142	0.1	1	
<b>Amphetamine, ecstasy, and other stimulants</b>	1293	8,219,745	0.2		
Homelessness	110	24,531	4.5	40.4	(33.0-49.5)
No homelessness	1183	8,195,214	0.1	1	
<b>Hallucinogens</b>	117	8,228,952	0.0		
Homelessness	6	25,811	0.2	24.2	(10.4-56.2)
No homelessness	111	8,203,141	0.0	1	
<b>Nicotine</b>	8941	8,161,736	1.1		
Homelessness	162	24,065	6.7	5.3	(4.5-6.2)
No homelessness	8779	8,137,671	1.1	1	
<b>Inhalants</b>	65	8,228,582	0.0		
Homelessness	...	...	...	...	...
No homelessness	...	...	...	...	...
<b>Other psychoactive substances and multiple drug use</b>	3092	8,202,716	0.4		
Homelessness	214	22,252	9.6	43.9	(37.9-50.7)
No homelessness	2878	8,180,464	0.4	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin.



**Table S11 Incidence rate ratios of sheltered homelessness by time since first psychiatric disorder**

	<b>Cases</b>	<b>Person-years</b>	<b>IRR*</b>	<b>(95% CI)</b>
<b>Time from first psychiatric diagnosis to homelessness (years)</b>	11,433	16,787,562		
<b>Any psychiatric disorder</b>				
0-1	1004	210,394	17.3	(16.2-18.5)
1-2	681	210,916	11.4	(10.5-12.4)
2-5	1648	598,139	9.3	(8.7- 9.8)
5+	3836	1,659,389	7.8	(7.4-8.1)
No	4264	14,108,723	1	
<b>Organic disorder</b>				
0-1	44	3147	17.9	(13.3-24.0)
1-2	21	2981	9.0	(5.9-13.8)
2-5	44	8007	6.9	(5.2-9.3)
5+	56	17,526	4.3	(3.3-5.6)
No	11268	16,755,901	1	
<b>Alcohol use disorder</b>				
0-1	415	42,916	16.7	(15.1-18.4)
1-2	226	43,744	8.2	(7.2-9.4)
2-5	568	123,102	6.5	(5.9-7.0)
5+	872	275,807	5.1	(4.7-5.5)
No	9352	16,301,993	1	
<b>Drug use disorder</b>				
0-1	928	38,622	38.8	(36.3-41.6)
1-2	517	36,071	22.7	(20.7-24.8)
2-5	949	90,543	17.0	(15.9-18.2)
5+	899	126,677	14.7	(13.7-15.8)
No	8140	16,495,648	1	
<b>Schizophrenia spectrum disorder</b>				
0-1	367	25,400	20.1	(18.1-22.3)
1-2	210	23,922	12.0	(10.5-13.8)
2-5	401	59,244	9.0	(8.1-9.9)
5+	442	89,611	7.4	(6.7-8.1)
No	10,013	16,589,385	1	
<b>Schizophrenia</b>				
0-1	144	12,202	13.9	(11.8-16.4)
1-2	102	11,408	10.4	(8.6-12.7)
2-5	214	28,468	8.8	(7.7-10.1)
5+	203	41,443	6.8	(5.9-7.8)
No	10,770	1,669,4041	1	
<b>Mood disorder</b>				
0-1	362	64,013	10.5	(9.5-11.7)
1-2	204	60,183	6.2	(5.4-7.1)
2-5	443	152,047	5.1	(4.7-5.7)
5+	505	229,185	4.3	(4.0-4.8)
No	9919	16,282,133	1	
<b>Bipolar disorder</b>				
0-1	47	6953	10.1	(7.6-13.4)
1-2	36	6246	8.4	(6.08-11.7)
2-5	65	14,518	6.6	(5.2-8.5)
5+	66	15,949	6.8	(5.3- 8.7)

No	11,219	16,743,896	1
<b>Depressive disorder</b>			
0-1	323	58,409	10.2 (9.1-11.4)
1-2	176	55,017	5.8 (5.0-6.7)
2-5	380	139,284	4.8 (4.3-5.3)
5+	441	210,636	4.1 (3.7-4.5)
No	10,113	16,324,217	1
<b>Neurotic disorder</b>			
0-1	705	114,725	14.1 (13.1-15.3)
1-2	442	112,364	8.8 (8.0-9.7)
2-5	915	300,431	6.5 (6.0-6.9)
5+	1336	543,860	5.3 (5.0-5.7)
No	8035	15,716,181	1
<b>Eating disorder</b>			
0-1	19	16,427	3.1 (2.0-4.9)
1-2	21	16,947	3.2 (2.1-4.9)
2-5	64	47,947	2.9 (2.3-3.7)
5+	113	98,867	2.2 (1.8-2.7)
No	11,216	16,607,374	1
<b>Personality disorder</b>			
0-1	303	35,398	16.5 (14.7-18.5)
1-2	173	33,415	9.7 (8.3-11.3)
2-5	418	85,741	9.0 (8.1-9.9)
5+	481	136,318	7.7 (7.0-8.4)
No	10,058	16,496,690	1
<b>Disability disorder</b>			
0-1	39	7115	9.7 (7.1-13.3)
1-2	48	7705	10.8 (8.1-14.3)
2-5	111	24,973	6.7 (5.6-8.1)
5+	287	118,995	3.0 (2.7-3.4)
No	10,948	16,628,773	1
<b>Developmental disorder</b>			
0-1	30	16,487	4.2 (3.0-6.1)
1-2	33	17,313	4.1 (2.9-5.8)
2-5	64	52,222	2.2 (1.7-2.8)
5+	203	168,749	1.6 (1.4-1.8)
No	11,103	16,532,791	1
<b>Behavioural disorder</b>			
0-1	369	49,689	18.9 (17.0-20.9)
1-2	261	50,045	13.0 (11.5-14.7)
2-5	686	154,921	10.5 (9.7-11.4)
5+	2043	625,234	6.2 (5.9-6.6)
No	8074	15,907,672	1
<b>Specific drug use disorders</b>			
<b>Opioids</b>			
0-1	95	1232	86.2 (70.5-105.5)
1-2	43	1042	47.9 (35.5-64.6)
2-5	80	2258	43.5 (34.9-54.2)
5+	40	3132	19.0 (13.9-25.9)
No	11,175	16,779,899	1
<b>Cannabis</b>			

0-1	514	16,961	40.5	(37.1-44.3)
1-2	294	15,694	24.1	(21.4-27.0)
2-5	551	38,566	18.0	(16.5-19.7)
5+	512	50,975	15.2	(13.8-16.6)
No	9562	16,665,367	1	
<b>Sedatives and hypnotics</b>				
0-1	67	1137	70.5	(55.5-89.7)
1-2	30	959	37.8	(26.4-54.1)
2-5	62	2165	36.1	(28.1-46.3)
5+	37	3169	17.3	(12.6-24.0)
No	11,237	16,780,132	1	
<b>Cocaine</b>				
0-1	210	4084	50.8	(44.3-58.3)
1-2	74	3571	20.6	(16.4-25.8)
2-5	132	7933	17.3	(14.6-20.6)
5+	98	8462	15.2	(12.5-18.6)
No	10,919	16,763,512	1	
<b>Amphetamine, ecstasy, and other stimulants</b>				
0-1	175	3512	60.1	(51.7-69.8)
1-2	71	3084	26.9	(21.3-34.0)
2-5	131	7157	21.5	(18.1-25.6)
5+	112	11,315	14.6	(12.1-17.7)
No	10,944	16,762,494	1	
<b>Hallucinogens</b>				
0-1	18	492	40.4	(25.4-64.1)
1-2	6	447	13.4	(6.0-29.8)
2-5	15	1076	13.7	(8.3-22.8)
5+	21	1656	15.2	(9.9-23.4)
No	11,373	16,783,891	1	
<b>Nicotine</b>				
0-1	55	12,578	5.7	(4.4-7.5)
1-2	35	12,125	3.8	(2.7-5.2)
2-5	96	31,978	4.1	(3.3-5.0)
5+	80	40,195	3.3	(2.6-4.1)
No	11,167	16,690,685	1	
<b>Inhalants</b>				
0-1	...	...	...	...
1-2	...	...	...	...
2-5	...	...	...	...
5+	...	...	...	...
No	...	...	...	...
<b>Other psychoactive substances and multiple drug use</b>				
0-1	481	8905	71.6	(65.3-78.5)
1-2	232	8128	36.1	(31.7-41.1)
2-5	409	20,165	25.4	(23.0-28.1)
5+	371	31,680	18.3	(16.4-20.3)
No	9940	16,718,684	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin.

**Table S12. Incidence rate ratios of psychiatric disorder by time since first homeless shelter contact**

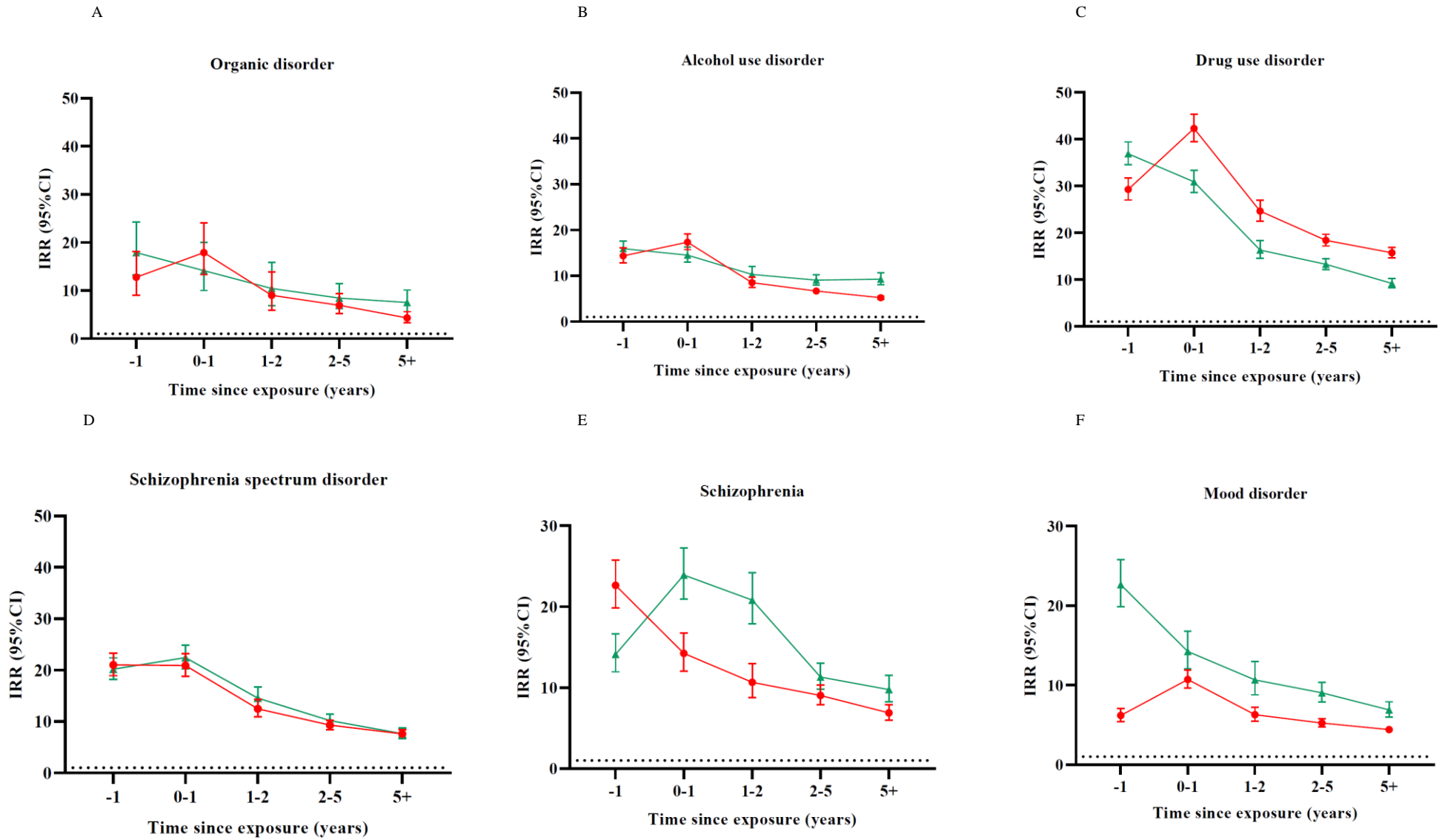
	Cases	Person-years	IRR <sup>a</sup>	(95% CI)
<b>Time from first homeless shelter contact to psychiatric diagnosis (years)</b>				
<b>Any psychiatric disorder</b>				
0-1	629	3746	13.3	(12.3-14.4)
1-2	277	3067	7.5	(6.6-8.4)
2-5	432	6649	5.8	(5.3-6.4)
5+	317	8315	4.1	(3.7-4.6)
No	209,075	14,109,283	1	
<b>Organic disorders</b>				
0-1	33	10,698	13.9	(9.9-19.6)
1-2	22	9624	10.2	(6.7-15.6)
2-5	42	22,849	8.3	(6.1-11.3)
5+	46	30,777	7.4	(5.5-10.0)
No	3251	16,755,879	1	
<b>Alcohol use disorder</b>				
0-1	303	8741	14.3	(12.8-16.1)
1-2	167	7722	10.2	(8.7-11.8)
2-5	267	17,906	9.0	(7.9-10.1)
5+	211	23,415	9.2	(8.0-10.5)
No	42,555	16,302,084	1	
<b>Drug use disorder</b>				
0-1	651	7419	29.8	(27.6-32.3)
1-2	290	6334	15.8	(14.0-17.7)
2-5	496	14,331	12.8	(11.7-14.0)
5+	332	18,665	8.9	(8.0-10.0)
No	40,002	16,495,735	1	
<b>Schizophrenia spectrum disorder</b>				
0-1	367	9334	22.0	(19.8-24.4)
1-2	205	8195	14.3	(12.5-16.4)
2-5	300	18,991	10.0	(8.9-11.2)
5+	212	25,269	7.5	(6.6-8.7)
No	26,071	16,589,429	1	
<b>Schizophrenia</b>				
0-1	228	10,119	23.5	(20.6-26.9)
1-2	172	8946	20.5	(17.6-23.8)
2-5	195	20,819	11.1	(9.7-12.9)
5+	145	27,650	9.7	(8.2-11.4)
No	12,595	16,694,046	1	
<b>Mood disorders</b>				
0-1	207	9341	6.3	(5.5-7.3)
1-2	109	8318	3.7	(3.1-4.5)
2-5	193	19,520	2.9	(2.5-3.3)
5+	203	25,666	2.7	(2.3-3.1)
No	65,613	16,282,286	1	
<b>Bipolar disorder</b>				
0-1	41	10,649	8.7	(6.4-11.9)
1-2	25	9586	5.6	(3.8-8.3)
2-5	47	22,778	4.2	(3.1-5.6)
5+	51	30,919	3.4	(2.6-4.5)

No	7297	16,743,885	1	
<b>Depressive disorder</b>				
0-1	172	9541	5.8	(5.0-6.7)
1-2	90	8517	3.4	(2.8-4.2)
2-5	161	20,024	2.6	(2.3-3.1)
5+	168	26,420	2.4	(2.1-2.8)
No	59802	16,324,353	1	
<b>Neurotic disorder</b>				
0-1	448	7429	10.3	(9.4-11.3)
1-2	237	6469	6.3	(5.6-7.2)
2-5	420	14,838	5.1	(4.6-5.6)
5+	401	18,943	4.1	(3.7-4.5)
No	115244	15,716,475	1	
<b>Eating disorder</b>				
0-1	19	10,651	3.5	(2.2-5.4)
1-2	11	9604	2.4	(1.3-4.3)
2-5	21	22,856	2.2	(1.4-3.3)
5+	18	31,085	2.2	(1.4-3.4)
No	15931	16,607,387	1	
<b>Personality disorder</b>				
0-1	283	9400	16.5	(14.7-18.6)
1-2	155	8282	10.4	(8.9-12.2)
2-5	273	19,065	8.5	(7.5-9.6)
5+	226	24,244	7.3	(6.4-8.3)
No	36253	16,496,762	1	
<b>Disability disorder</b>				
0-1	45	10,381	12.8	(9.5-17.2)
1-2	29	9344	9.8	(6.8-14.1)
2-5	72	22,205	11.6	(9.2-14.7)
5+	50	30,160	8.3	(6.3-11.1)
No	6783	16,628,762	1	
<b>Developmental disorder</b>				
0-1	39	10,550	6.3	(4.6-8.6)
1-2	27	9511	5.0	(3.4-7.3)
2-5	26	22,666	2.1	(1.4-3.1)
5+	34	30,971	2.5	(1.8-3.5)
No	15941	16,532,804	1	
<b>Behavioural disorder</b>				
0-1	390	7485	23.1	(20.9-25.5)
1-2	208	6512	14.6	(12.8-16.8)
2-5	315	15,140	10.0	(9.0-11.2)
5+	256	20,447	7.2	(6.4-8.2)
No	49555	15,907,785	1	
<b>Specific drug use disorders</b>				
<b>Opioids</b>				
0-1	98	10,584	87.3	(71.0-107.5)
1-2	73	9486	68.9	(54.3-87.4)
2-5	121	22,419	45.8	(37.9-55.4)
5+	107	29,941	29.6	(24.0-36.3)
No	1381	16,779,872	1	
<b>Cannabis</b>				

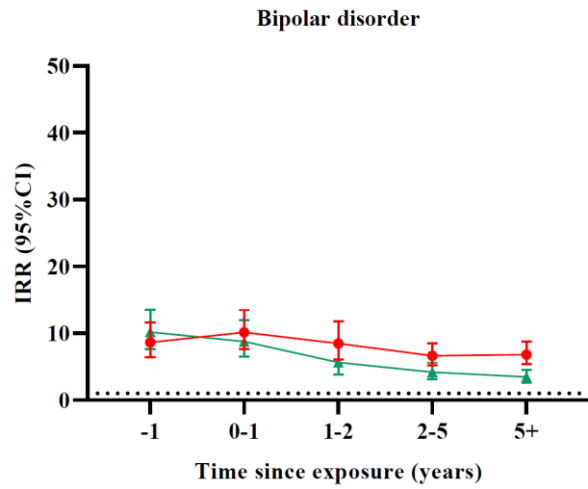
0-1	421	8873	36.7	(33.3-40.4)
1-2	204	7740	21.1	(18.3-24.2)
2-5	344	17,786	17.4	(15.6-19.3)
5+	253	23,796	14.4	(12.7-16.3)
No	17591	16,665,389	1	
<b>Sedatives and hypnotics</b>				
0-1	79	10,643	80.9	(64.3-101.8)
1-2	41	9570	45.5	(33.3-62.3)
2-5	93	22,677	43.2	(34.8-53.6)
5+	61	30,574	22.9	(17.5-29.8)
No	1251	16,780,105	1	
<b>Cocaine</b>				
0-1	129	10,335	30.7	(25.7-36.59)
1-2	95	9262	24.5	(20.0-30.0)
2-5	153	21,971	16.8	(14.3-19.7)
5+	138	29,843	12.9	(10.9-15.4)
No	4432	16,763,494	1	
<b>Amphetamine, ecstasy, and other stimulants</b>				
0-1	141	10,340	49.6	(41.8-58.7)
1-2	85	9260	33.7	(27.2-41.8)
2-5	159	21,814	28.2	(24.0-33.1)
5+	144	29,167	21.4	(18.0-25.4)
No	3785	16,762,474	1	
<b>Hallucinogens</b>				
0-1	14	10,808	34.6	(20.3-59.1)
1-2	13	9736	37.5	(21.55-65.4)
2-5	8	23178	11.1	(5.5-22.4)
5+	5	31517	7.6	(3.1-18.5)
No	519	16,783,861	1	
<b>Nicotine</b>				
0-1	64	10,582	7.0	(5.5-8.9)
1-2	41	9492	4.8	(3.5-6.5)
2-5	101	22,414	4.9	(4.0-6.0)
5+	100	29,868	4.4	(3.6-5.4)
No	12,801	16,690,690	1	
<b>Inhalants<sup>†</sup></b>				
0-2	5	10,825	46.3	(18.8-113.8)
2-5	7	33,001	24.3	(11.2-52.7)
5+	5	31,576	21.1	(8.3-53.7)
No	181	16,784,439	1	
<b>Other psychoactive substances and multiple drug use</b>				
0-1	388	9253	63.6	(57.4-70.5)
1-2	185	8125	36.4	(31.4-42.1)
2-5	284	18,757	27.6	(24.5-31.1)
5+	198	24,528	21.2	(18.4-24.6)
No	9396	16,718,683	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin.

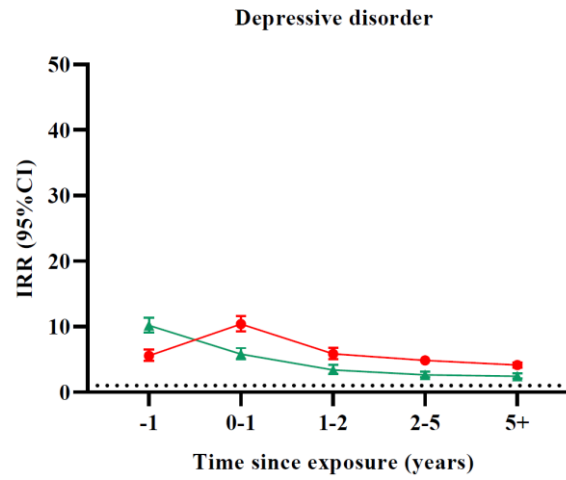
Figure S13. Incidence rate ratio of sheltered homelessness and psychiatric disorders including one year prior to first time of exposure<sup>a</sup>



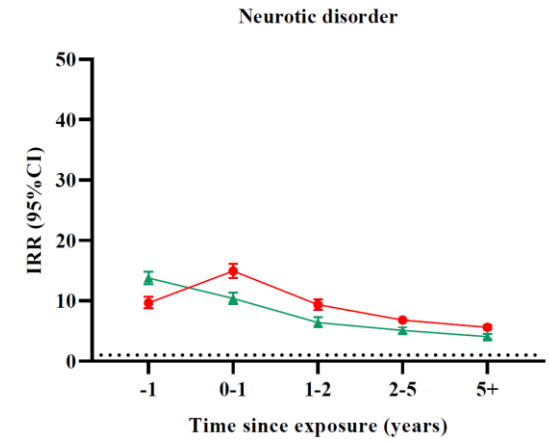
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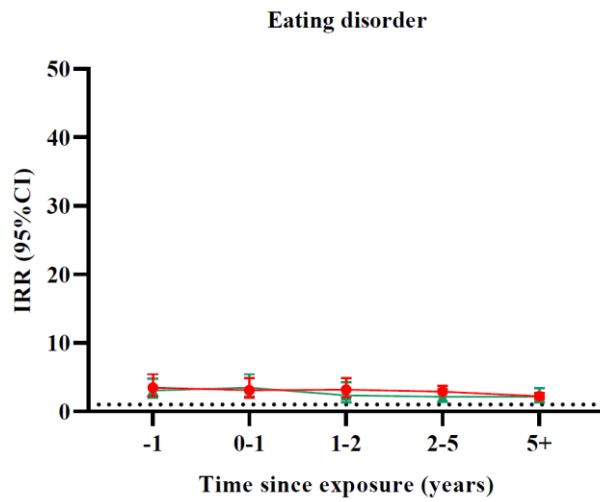
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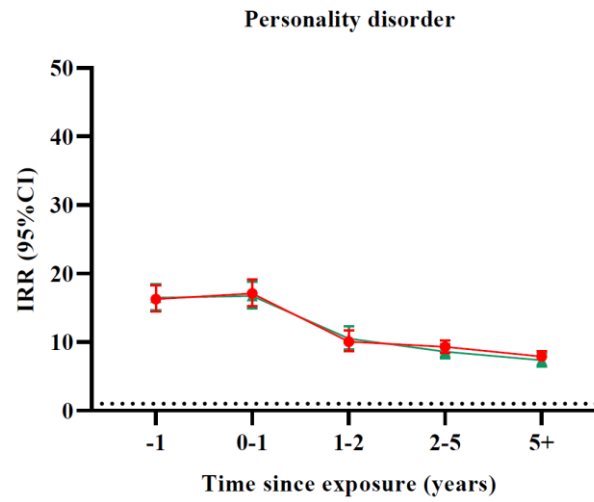
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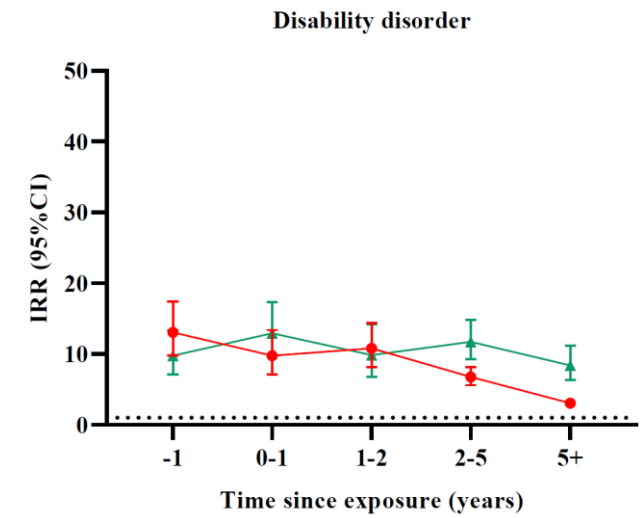
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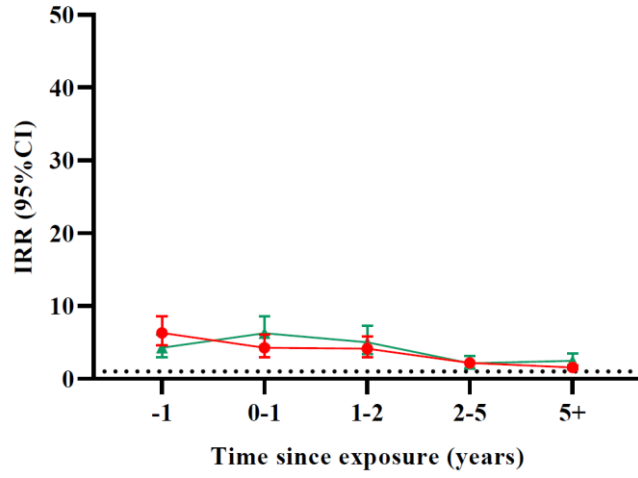




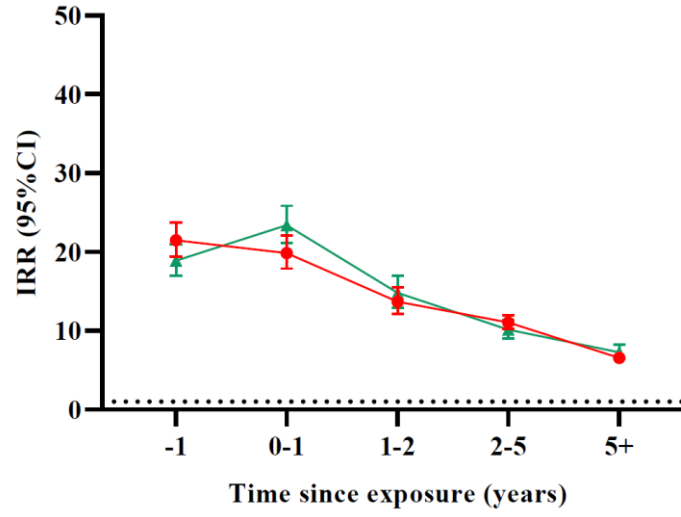
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### Developmental disorder

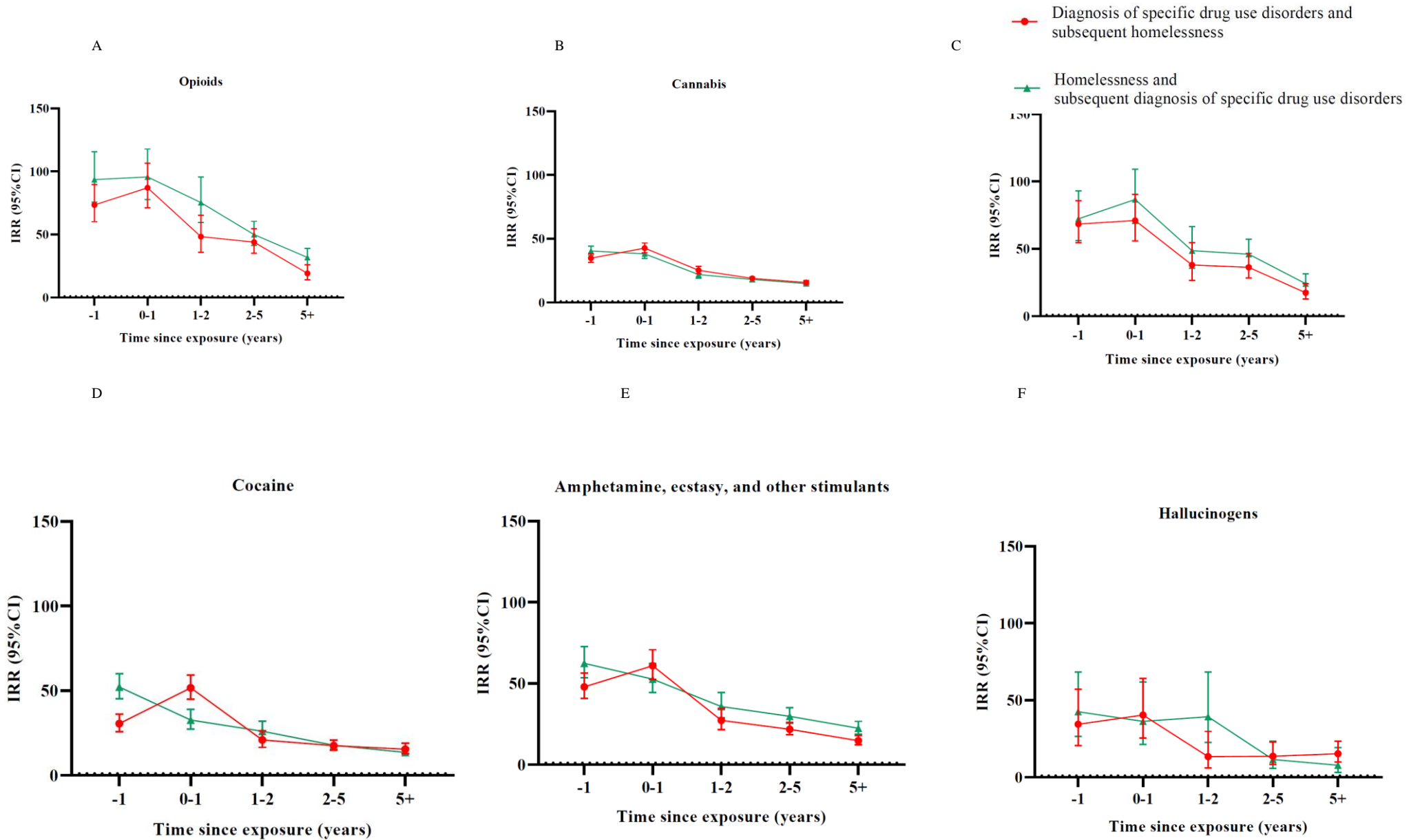


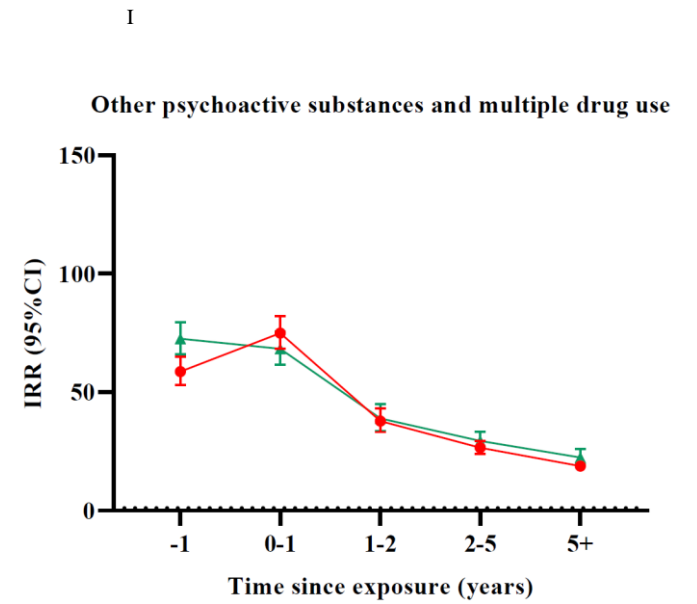
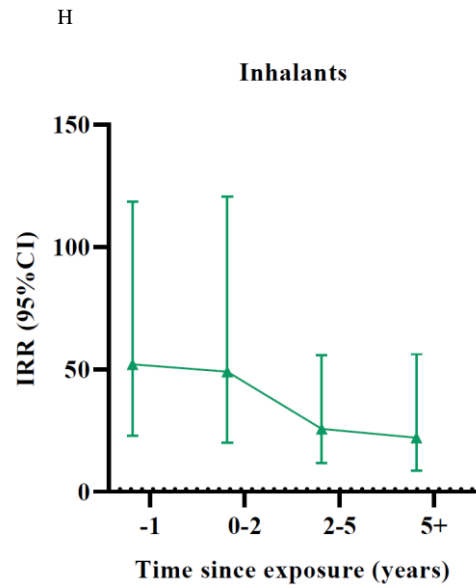
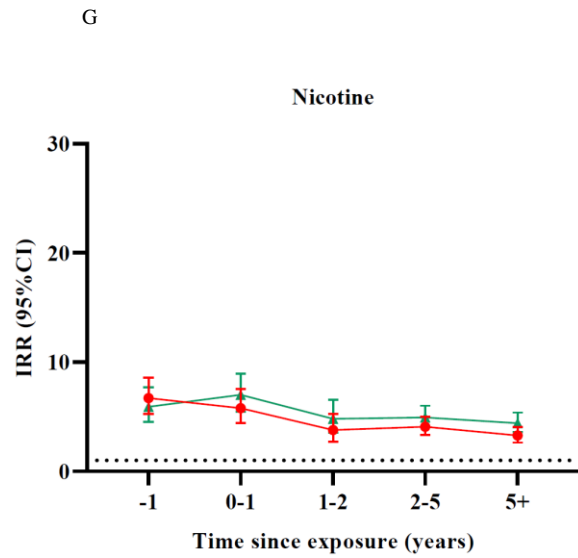
### Behavioural disorder



IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for sex, age, calendar year, and country of origin.

**Figure S14 Incidence rate ratio of sheltered homelessness and drug use disorders including one year prior to first time of exposure<sup>a</sup>**





IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for sex, age, calendar year, and country of origin.

**Table S15. Sensitivity analysis of sheltered homelessness by time since first psychiatric disorder**

	Cases	Person-years	IRR <sup>a</sup>	(95% CI)
<b>Time from first disorder to homelessness (years)<sup>b</sup></b>				
<b>Any psychiatric disorder</b>				
-1	630	203,603	13.2	(12.1-14.3)
0-1	1004	210,394	20.1	(18.7-21.6)
1-2	681	210,916	13.3	(12.2-14.4)
2-5	1648	598,139	10.7	(10.1-11.4)
5+	3836	1,659,389	9.0	(8.6-9.4)
No	3634	13,905,119	1	
<b>Organic disorder</b>				
-1	32	3270	12.8	(9.0-18.1)
0-1	44	3147	17.9	(13.3-24.1)
1-2	21	2981	9.0	(5.9-13.9)
2-5	44	8007	7.0	(5.2-9.4)
5+	56	17,526	4.3	(3.3-5.6)
No	11,236	16,752,631	1	
<b>Alcohol use disorder</b>				
-1	304	41,437	14.4	(12.8-16.1)
0-1	415	42,916	17.4	(15.7-19.2)
1-2	226	43,744	8.5	(7.5-9.7)
2-5	568	123,102	6.7	(6.1-7.3)
5+	872	275,807	5.2	(4.9-5.6)
No	9048	16,260,556	1	
<b>Drug use disorder</b>				
-1	655	40,600	29.3	(27.0-31.7)
0-1	928	38,622	42.3	(39.5-45.3)
1-2	517	36,071	24.7	(22.5-27.0)
2-5	949	90,543	18.4	(17.2-19.7)
5+	899	126,677	15.7	(14.6-16.9)
No	7485	16,455,048	1	
<b>Schizophrenia spectrum disorder</b>				
-1	374	26,221	21.0	(19.0-23.3)
0-1	367	25,400	20.9	(18.8-23.2)
1-2	210	23,922	12.5	(10.9-14.3)
2-5	401	59,244	9.3	(8.4-10.3)
5+	442	89,611	7.6	(6.9-8.4)
No	9639	16,563,164	1	
<b>Schizophrenia</b>				
-1	233	12,788	22.6	(19.9-25.8)
0-1	144	12,202	14.2	(12.1-16.8)
1-2	102	11,408	10.7	(8.8-13.0)
2-5	214	28,468	9.0	(7.9-10.3)
5+	203	41,443	6.9	(6.0-7.9)
No	10,537	16,681,254	1	
<b>Mood disorder</b>				
-1	212	65,617	6.2	(5.4-7.1)
0-1	362	64,013	10.7	(9.6-11.9)
1-2	204	60,183	6.3	(5.5-7.2)

2-5	443	152,047	5.2	(4.8-5.8)
5+	505	229,185	4.4	(4.0-4.9)
No	9707	16,216,516	1	
<b>Bipolar disorder</b>				
-1	43	7562	8.6	(6.4-11.6)
0-1	47	6953	10.1	(7.6-13.5)
1-2	36	6246	8.5	(6.1-11.8)
2-5	65	14,518	6.7	(5.2-8.5)
5+	66	15,949	6.8	(5.4-8.7)
No	11,176	16,736,333	1	
<b>Depressive disorder</b>				
-1	175	59,674	5.6	(4.8-6.5)
0-1	323	58,409	10.4	(9.3-11.6)
1-2	176	55,017	5.9	(5.1-6.8)
2-5	380	139,284	4.8	(4.4-5.4)
5+	441	210,636	4.1	(3.7-4.6)
No	9938	16,264,543	1	
<b>Neurotic disorder</b>				
-1	450	113,077	9.7	(8.8-10.6)
0-1	705	114,725	14.9	(13.8-16.1)
1-2	442	112,364	9.3	(8.5-10.3)
2-5	915	300,431	6.8	(6.4-7.3)
5+	1336	543,860	5.6	(5.3-6.0)
No	7585	15,603,104	1	
<b>Eating disorder</b>				
-1	19	15,080	3.5	(2.2-5.43)
0-1	19	16,427	3.1	(2.0-4.9)
1-2	21	16,947	3.2	(2.1-4.9)
2-5	64	47,947	2.9	(2.3-3.7)
5+	113	98,867	2.2	(1.9-2.7)
No	11,197	16,592,294	1	
<b>Personality disorder</b>				
-1	286	36,436	16.3	(14.4-18.3)
0-1	303	35,398	17.1	(15.3-19.2)
1-2	173	33,415	10.1	(8.7-11.7)
2-5	418	85,741	9.3	(8.4-10.3)
5+	481	136,318	7.9	(7.2-8.7)
No	9772	16,460,255	1	
<b>Disability disorder</b>				
-1	47	6348	13.1	(9.8-17.4)
0-1	39	7115	9.8	(7.1-13.4)
1-2	48	7705	10.8	(8.2-14.4)
2-5	111	24,973	6.8	(5.6-8.1)
5+	287	118,995	3.1	(2.7-3.4)
No	10,901	16,622,425	1	
<b>Developmental disorder</b>				
-1	41	14,960	6.3	(4.6-8.57)
0-1	30	16,487	4.3	(3.0-6.1)
1-2	33	17,313	4.2	(3.0-5.9)
2-5	64	52,222	2.2	(1.7-2.8)
5+	203	168,749	1.6	(1.4-1.8)

No	11,062	16,517,831	1	
<b>Behavioural disorder</b>				
-1	394	48,469	21.5	(19.4-23.8)
0-1	369	49,689	19.9	(17.9-22.1)
1-2	261	50,045	13.7	(12.1-15.5)
2-5	686	154,921	11.1	(10.2-12.0)
5+	2043	625,234	6.6	(6.2-6.9)
No	7680	15,859,202	1	
<b>Specific drug use disorders</b>				
<b>Opioids</b>				
-1	98	1492	73.4	(60.2-89.6)
0-1	95	1232	87.1	(71.2-106.6)
1-2	43	1042	48.4	(35.8-65.2)
2-5	80	2258	43.9	(35.2-54.7)
5+	40	3132	19.1	(14.0-26.1)
No	11,077	16,778,406	1	
<b>Cannabis</b>				
-1	426	17,883	34.8	(31.6-38.4)
0-1	514	16,961	42.7	(39.1-46.7)
1-2	294	15,694	25.3	(22.6-28.5)
2-5	551	38,566	18.9	(17.3-20.6)
5+	512	50,975	15.7	(14.4-17.3)
No	9136	16,647,483	1	
<b>Sedatives and hypnotics</b>				
-1	77	1340	68.5	(54.7-85.7)
0-1	67	1137	71.0	(55.9-90.3)
1-2	30	959	38.1	(26.6-54.5)
2-5	62	2165	36.3	(28.3-46.7)
5+	37	3169	17.5	(12.6-24.1)
No	11,160	16,778,792	1	
<b>Cocaine</b>				
-1	139	4691	30.5	(25.8-36.1)
0-1	210	4084	51.6	(45.0-59.2)
1-2	74	3571	20.9	(16.6-26.3)
2-5	132	7933	17.6	(14.8-20.9)
5+	98	8462	15.5	(12.6-18.9)
No	10,780	16,758,821	1	
<b>Amphetamine, ecstasy, and other stimulants</b>				
-1	148	3951	48.0	(40.8-56.4)
0-1	175	3512	61.0	(52.5-70.8)
1-2	71	3084	27.3	(21.7-34.5)
2-5	131	7157	21.9	(18.4-26.0)
5+	112	11,315	14.8	(12.3-17.9)
No	10,796	16,758,543	1	
<b>Hallucinogens</b>				
-1	15	533	34.4	(20.7-57.1)
0-1	18	492	40.4	(25.5-64.2)
1-2	6	447	13.4	(6.0-29.8)
2-5	15	1076	13.7	(8.3-22.8)
5+	21	1656	15.3	(9.9-23.4)
No	11,358	16,783,358	1	

<b>Nicotine</b>				
-1	64	12,884	6.7	(5.3-8.6)
0-1	55	12,578	5.8	(4.4-7.5)
1-2	35	12,125	3.8	(2.7-5.3)
2-5	96	31,978	4.1	(3.3-5.0)
5+	80	40,195	3.3	(2.6-4.1)
No	11,103	16,677,802	1	
<b>Inhalants</b>				
-1	...	...	...	...
0-1	...	...	...	...
1-2	...	...	...	...
2-5	...	...	...	...
5+	...	...	...	...
No	...	...	...	...
<b>Other psychoactive substances and multiple drug use</b>				
-1	389	9662	58.7	(53.1-65.0)
0-1	481	8905	75.0	(68.4-82.2)
1-2	232	8128	37.8	(33.2-43.1)
2-5	409	20,165	26.5	(24.0-29.3)
5+	371	31,680	18.8	(17.0-21.0)
No	9551	16,709,022	1	

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IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin. <sup>b</sup>The estimate of -1 year (i.e., the year prior to first diagnosis) should be interpreted with caution due to conditioned survival.

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**Table S16. Sensitivity analysis of psychiatric disorders by time since first homeless shelter contact**

	Cases	Person-years	IRR <sup>a</sup>	(95% CI)
<b>Time from homeless shelter contact to disorder (years)<sup>b</sup></b>				
<b>Psychiatric disorders</b>				
-1	988	4860	15.7	(14.7-16.7)
0-1	629	3746	13.5	(12.5-14.6)
1-2	277	3067	7.5	(6.7-8.5)
2-5	432	6649	5.8	(5.3-6.4)
5+	317	8315	4.2	(3.7-4.6)
No	208087	14,104,423	1	
<b>Organic disorders</b>				
-1	43	11,277	17.9	(13.2-24.2)
0-1	33	10,698	14.2	(10.0-20.0)
1-2	22	9624	10.4	(6.9-15.9)
2-5	42	22,849	8.4	(6.2-11.5)
5+	46	30,777	7.5	(5.6-10.1)
No	3208	16744602	1	
<b>Alcohol use disorder</b>				
-1	410	9593	16.0	(14.5-17.6)
0-1	303	8741	14.5	(13.0-16.3)
1-2	167	7722	10.3	(8.9-12.0)
2-5	267	17,906	9.1	(8.0-10.2)
5+	211	23,415	9.3	(8.1-10.6)
No	42,145	16,292,491	1	
<b>Drug use disorder</b>				
-1	917	8703	36.9	(34.6-39.4)
0-1	651	7419	30.9	(28.6-33.4)
1-2	290	6334	16.3	(14.5-18.3)
2-5	496	14,331	13.3	(12.1-14.5)
5+	332	18,665	9.2	(8.2-10.2)
No	39,085	16,487,032	1	
<b>Schizophrenia spectrum disorder</b>				
-1	363	10,220	20.2	(18.2-22.4)
0-1	367	9334	22.4	(20.2-24.9)
1-2	205	8195	14.6	(12.7-16.7)
2-5	300	18,991	10.2	(9.1-11.4)
5+	212	25,269	7.7	(6.7-8.8)
No	25,708	16,579,209	1	
<b>Schizophrenia</b>				
-1	143	10,838	14.1	(12.0-16.6)
0-1	228	10,119	23.9	(21.0-27.3)
1-2	172	8946	20.8	(17.9-24.2)
2-5	195	20,819	11.3	(9.8-13.0)
5+	145	27,650	9.8	(8.3-11.5)
No	12,452	16,683,208	1	
<b>Mood disorder</b>				
-1	362	10,117	10.4	(9.4-11.6)
0-1	207	9341	6.4	(5.6-7.3)
1-2	109	8318	3.8	(3.1-4.6)
2-5	193	19,520	2.9	(2.5-3.3)



5+	203	25,666	2.7	(2.3-3.1)
No	65,251	16,272,169	1	
<b>Bipolar disorder</b>				
-1	47	11,229	10.2	(7.6-13.6)
0-1	41	10,649	8.8	(6.5-12.0)
1-2	25	9586	5.6	(3.8-8.4)
2-5	47	22,778	4.2	(3.2-5.6)
5+	51	30,919	3.5	(2.6-4.6)
No	7250	16,732,656	1	
<b>Depressive disorder</b>				
-1	323	9541	10.2	(9.1-11.4)
0-1	172	8517	5.8	(5.0-6.7)
1-2	90	20,024	3.4	(2.8-4.2)
2-5	161	26,420	2.7	(2.3-3.1)
5+	168	16,314,066	2.4	(2.1-2.8)
No	59,479	9541	1	
<b>Neurotic disorder</b>				
-1	690	8464	13.8	(12.8-14.8)
0-1	448	7429	10.4	(9.5-11.4)
1-2	237	6469	6.4	(5.6-7.3)
2-5	420	14,838	5.1	(4.6-5.6)
5+	401	18,943	4.1	(3.7-4.5)
No	114,554	15,708,011	1	
<b>Eating disorder</b>				
-1	19	11,207	3.1	(2.0-4.8)
0-1	19	10,651	3.5	(2.2-5.4)
1-2	11	9604	2.4	(1.3-4.3)
2-5	21	22,856	2.2	(1.4-3.3)
5+	18	31,085	2.2	(1.4-3.4)
No	15912	16,596,179	1	
<b>Personality disorder</b>				
-1	303	10,218	16.5	(14.7-18.4)
0-1	283	9400	16.7	(14.9-18.8)
1-2	155	8282	10.5	(9.0-12.3)
2-5	273	19,065	8.6	(7.6-9.7)
5+	226	24,244	7.4	(6.5-8.4)
No	35,950	16,486,544	1	
<b>Disability disorder</b>				
-1	39	10,949	9.8	(7.1-13.4)
0-1	45	10,381	12.9	(9.6-17.4)
1-2	29	9344	9.9	(6.8-14.2)
2-5	72	22,205	11.7	(9.3-14.8)
5+	50	30,160	8.4	(6.3-11.2)
No	6744	16,617,813	1	
<b>Developmental disorder</b>				
-1	30	11,102	4.3	(3.0-6.1)
0-1	39	10,550	6.3	(4.6-8.6)
1-2	27	9511	5.0	(3.4-7.3)
2-5	26	22,666	2.1	(1.5-3.1)
5+	34	30,971	2.5	(1.8-3.5)
No	15,911	16,521,703	1	

<b>Behavioural disorder</b>				
-1	363	8284	18.9	(17.0-20.9)
0-1	390	7485	23.4	(21.2-25.9)
1-2	208	6512	14.8	(12.9-17.0)
2-5	315	15,140	10.2	(9.1-11.34)
5+	256	20,447	7.3	(6.4-8.2)
No	49,192	15,899,502	1	
<b>Specific drug use disorders</b>				
<b>Opioids</b>				
-1	94	11,218	93.6	(75.7-115.7)
0-1	98	10,584	95.7	(77.7-117.8)
1-2	73	9486	75.4	(59.4-95.7)
2-5	121	22,419	49.9	(41.3-60.4)
5+	107	29,941	31.8	(25.9-39.1)
No	1287	16,768,653	1	
<b>Cannabis</b>				
-1	511	9863	40.4	(37.0-44.2)
0-1	421	8873	38.2	(34.7-42.1)
1-2	204	7740	21.9	(19.1-25.2)
2-5	344	17,786	18.1	(16.2-20.1)
5+	253	23,796	14.8	(13.1-16.9)
No	17080	16,655,525	1	
<b>Sedatives and hypnotics</b>				
-1	65	11,263	72.3	(56.2-93.0)
0-1	79	10,643	86.7	(68.9-109.1)
1-2	41	9570	48.7	(35.6-66.6)
2-5	93	22,677	46.1	(37.1-57.2)
5+	61	30,574	24.1	(18.5-31.5)
No	1186	16,768,842	1	
<b>Cocaine</b>				
-1	208	11,030	52.2	(45.3-60.0)
0-1	129	10,335	32.7	(27.4-39.0)
1-2	95	9262	26.1	(21.2-32.0)
2-5	153	21,971	17.8	(15.1-21.0)
5+	138	29,843	13.6	(11.4-16.2)
No	4224	16,752,465	1	
<b>Amphetamine, ecstasy, and other stimulants</b>				
-1	175	11,038	62.4	(53.5-72.7)
0-1	141	10,340	52.7	(44.5-62.4)
1-2	85	9260	35.8	(28.8-44.5)
2-5	159	21,814	29.8	(25.4-35.1)
5+	144	29,167	22.4	(18.9-26.7)
No	3610	16,751,437	1	
<b>Hallucinogens</b>				
-1	18	11,364	42.6	(26.5-68.3)
0-1	14	10,808	36.3	(21.3-61.9)
1-2	13	9736	39.3	(22.6-68.5)
2-5	8	23,178	11.6	(5.7-23.4)
5+	5	31,517	7.8	(3.2-19.2)
No	501	16,772,497	1	
<b>Nicotine</b>				

-1	55	11,179	5.9	(4.5-7.7)
0-1	64	10,582	7.0	(5.5-9.0)
1-2	41	9,492	4.8	(3.6-6.6)
2-5	101	22,414	4.9	(4.1-6.0)
5+	100	29,868	4.4	(3.6-5.4)
No	12,746	16,679,511	1	
<b>Inhalants<sup>c</sup></b>				
-1	6	11,376	52.1	(22.9-118.6)
0-2	5	10,825	49.0	(19.9-120.7)
2-5	7	33,001	25.6	(11.8-55.7)
5+	5	31,576	22.1	(8.7-56.2)
No	175	16,773,063	1	
<b>Other psychoactive substances and multiple drug use</b>				
-1	475	10,233	72.5	(66.1-79.6)
0-1	388	9,253	68.3	(61.6-75.7)
1-2	185	8,125	39.0	(33.7-45.1)
2-5	284	18,757	29.5	(26.2-33.3)
5+	198	24,528	22.5	(19.4-26.0)
No	8,921	16,708,449	1	

IR, incidence rate; IRR, incidence rate ratio; CI, confidence interval. <sup>a</sup>Adjusted for age, calendar year, and country of origin. <sup>b</sup>The estimate of -1 year (i.e., the year prior to first homeless shelter contact) should be interpreted with caution due to conditioned survival. <sup>c</sup>Inhalants – group 0-1 and 1-2 are combined due to too few cases.

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