

## **CONTENTS**

Table S1. Classification and frequency of Lyme borreliosis diagnoses

Table S2. Number of individuals with mental disorders, person-years, and rates of mental disorders by socio-demographic and health-related variables in individuals with and without Lyme borreliosis, respectively.

Table S3. Number of people with Lyme Borreliosis and any mental disorder, affective disorders, suicide attempt or suicide according to disease category, basic and fully adjusted incidence rate ratios.

Table S4. Number of individuals with Lyme borreliosis and basic and fully adjusted incidence rate ratios for all 4 outcomes, respectively, including individuals with a history of mental disorders or suicide attempt before 1994

Table S5. Number of Individuals with Lyme borreliosis and basic and adjusted incidence rate ratios for non-CNS fractures

**TABLE S1. Classification and frequency of Lyme disease/Lyme borreliosis diagnoses\***

<b>ICD-10 codes for Lyme disease/Lyme borreliosis</b>	<b>n</b>
<b><i>Lyme general &amp; other non- neuro</i></b>	
DA692 Lyme's disease	12141
DA 692A Borrelia acrodermatitis	238
DA692B Borrelia arthritis	96
DA692C Borrelia carditis	23
DA692E Borreliosis	1464
DA692F Erythema chronicum migrans (Borrelia)	1284
DM012 Arthritis by Borrelia infection	303
DM012A Arthritis, Lyme's disease	14
<b><i>Lyme neuro other</i></b>	
DA692D Borrelia polyradiculitis	860
DA692G Polyradiculitis by a Borrelia infection	138
DG360K Polyneuropathia, Lyme's disease	9
<b><i>Meningitis</i></b>	
DG019J Meningitis, Lyme's disease	360

\* Individuals could be registered with more than one diagnosis therefore the number of diagnoses exceeds the number of individuals in the study.

**TABLE S2. Number of individuals with mental disorders, person-years, and rates of mental disorders by socio-demographic and health-related variables in individuals with and without Lyme borreliosis, respectively**

Characteristics	No Lyme borreliosis			Lyme borreliosis		
	n	person-years	IR per 100,000 person-years (95%CI)	n	person-years	IR per 100,000 (95% CI)
<b>Total</b>	633973	111839450	567 (565-568)	831	113426	733 (683-782)
<i>Gender</i>						
Male	293519	55738932	527 (525-529)	405	59188	684 (618-751)
Female	340454	56100518	607 (605-609)	426	54237	785 (711-860)
<i>Marital status</i>						
Never married	318791	45690600	698 (695-700)	447	45417	984 (893-1,075)
Married/reg. Partner	167755	46615851	360 (358-362)	264	52025	507 (446-569)
Divorced	54458	7877818	691 (685-697)	58	8196	708 (526-890)
Widowed	60721	6616589	918 (910-925)	33	4267	773 (509-1,037)
Unknown status	32248	5038592	640 (633-647)	29	3521	824 (524-1,123)
<i>Educational level</i>						
Elementary school	253899	31787685	799 (796-802)	204	23521	867 (748-986)
Vocational training	120947	29623999	408 (406-411)	152	27097	561 (472-650)
High school	42813	7089679	604 (598-610)	45	5276	853 (604-1,102)
University degree	71295	20185163	353 (351-356)	141	27016	522 (436-608)
missing	145019	23152924	626 (623-630)	289	30516	947 (838-1,056)
<i>Socioeconomic status</i>						
Working	175458	55227868	318 (316-319)	282	55846	505 (446-564)
Unemployed	79057	3934009	2,010 (1,996-2,024)	49	3102	1,579 (1,137-2,022)
Disability pension	32791	3571467	918 (908-928)	26	2801	928 (571-1,285)
Retired/Early retirement	127864	19488707	656 (652-660)	122	16199	753 (619-887)
Under education	76979	8304922	927 (920-933)	54	4066	1,328 (974-1,682)
Under age or other	60920	7666743	795 (788-801)	90	6732	1,337 (1,061-1,613)
Missing	80904	13645735	593 (589-597)	208	24679	843 (728-957)
<i>Charlson comorbidity</i>						
0	509500	97243723	524 (523-525)	696	100442	693 (641-744)
1	77198	8707145	887 (880-893)	99	8635	1,146 (921-1,372)
2 +	47275	5888582	803 (796-810)	36	4349	828 (557-1,098)

**TABLE S3. Number of people with Lyme borreliosis and any mental disorder, affective disorders, suicide attempt or suicide according to Lyme borreliosis category, basic and fully adjusted incidence rate ratios**

Characteristics	Cases with psychiatric diagnosis	IR per 100000 pyrs	95% CI	Basic adjusted IRR <sup>1</sup>	95% CI	Fully adjusted IRR <sup>2</sup>	95% CI
<b>Any psychiatric diagnosis</b>							
<b>Lyme borreliosis category</b>							
No Lyme	633973	567	565-568	1		1	1
Lyme general <sup>4</sup>	773	731	679-782	1.20	1.11-1.28	1.29	1.20-1.38
Lyme neuro <sup>5</sup>	29	684	435-934	1.05	0.73-1.51	1.17	0.81-1.69
Lyme meningitis	29	858	545-1,170	1.25	0.87-1.79	1.18	0.82-1.70
<b>Affective disorders</b>							
<b>Lyme borreliosis category</b>							
No Lyme	218358	189	189-190	1		1	1
Lyme general <sup>4</sup>	305	275	244-305	1.26	1.12-1.41	1.43	1.28-1.60
Lyme neuro <sup>5</sup>	13	295	135-455	1.19	0.69-2.04	1.33	0.78-2.30
Lyme meningitis	6	169	34-304	0.78	0.35-1.73	1.21	0.54-2.70
<b>Suicide attempt<sup>3</sup></b>							
<b>Lyme borreliosis category combining neuro and meningitis</b>							
No Lyme	58144	50	50-50	1		1	1
- Lyme general <sup>4</sup>	62	45	41-68	1.20	0.94-1.54	1.98	1.54-2.54
- Lyme neuro <sup>5</sup> or meningitis	5	59	8-116	1.18	0.49-2.85	2.40	1.00-5.77
<b>Suicide</b>							
<b>Lyme borreliosis category</b>							
No Lyme	12644	11	11-11	1			na
Lyme general <sup>4</sup>	21	18	11-26	1.56	1.01-2.39		na
Lyme neuro <sup>5</sup>	4	49	1-97	4.86	1.82-12.94		na
Lyme meningitis	0	na	na	na	na		na

<sup>1</sup>Basic adjusted: adjusted for sex, age and calendar period.

<sup>2</sup>Fully adjusted: adjusted for sex, age and calendar period, educational level, socio-economic status, civil status, Charlson comorbidity index.

<sup>3</sup>Also adjusted for pre-Lyme psychiatric disorders.

<sup>4</sup>Lyme general" refers to all non-neurologic diagnoses of Lyme disease.

<sup>5</sup>Lyme neuro refers to all neurologic codes other than the code for meningitis.

Abbreviation: IR= Incidence Rate; IRR = Incidence Rate Ratio

**TABLE S4. Number of individuals with Lyme borreliosis and basic and fully adjusted incidence rate ratios for all 4 outcomes, respectively, including individuals with a history of mental disorders or suicide attempt before 1994**

Characteristics	Cases	IR per 100000 person-years	95% CI	Basic adjusted IRR <sup>1</sup>	95% CI	Fully adjusted IRR <sup>2</sup>	95% CI
Outcome Mental disorders							
No Lyme	720368	630	629-631	1		1	
Lyme borreliosis	884	763	713-814	1.16	1.09-1.25	1.26	1.18-1.35
Outcome Affective disorders							
No Lyme	255123	215	215-216	1		1	
Lyme borreliosis	358	293	263-324	1.22	1.10-1.35	1.37	1.24-1.52
Outcome Suicide attempt <sup>3</sup>							
No Lyme	71711	60	59-60	1		1	
Lyme borreliosis	72	58	44-71	1.1	0.87-1.38	1.64	1.30-2.06
Outcome Suicide							
No Lyme	16083	13	13-14	1		na	na
Lyme borreliosis	28	22	14-31	1.74	1.18-2.58	na	na

<sup>1</sup>Basic adjusted: adjusted for sex, age and calendar period.

<sup>2</sup>Fully adjusted: adjusted for sex, age and calendar period, educational level, socio-economic status, civil status, Charlson comorbidity index.

<sup>3</sup>Also adjusted for pre-Lyme psychiatric disorders.

**TABLE S5. Number of individuals with Lyme borreliosis and basic and fully adjusted incidence rate ratios for non-CNS fractures<sup>3</sup>**

Characteristics	Cases	IR per 100000 person-years	95% CI	Basic adjusted IRR <sup>1</sup>	95% CI	Fully adjusted IRR <sup>2</sup>	95% CI
No Lyme borreliosis	1659699	1650	1648-1653	1		1	
Lyme borreliosis	1751	1813	1728-1898	1.13	1.07-1.18	1.14	1.09-1.20

<sup>1</sup>Basic adjusted: adjusted for sex, age and calendar period

<sup>2</sup>Fully adjusted: adjusted for sex, age and calendar period, educational level, socio-economic status, civil status and Charlson comorbidity index.

<sup>3</sup>ICD-10 codes for non-CNS fractures: S12.8A-S12.8D, S22.2-S22.5, S22.8, S22.9, S32.3-S32.5, S42.0-S42.7, S52.0-S52.9, S62.0-S62.8, S72.0-S72.4, S72.7-S72.9, S82.0-S82.9, S92.0-S92.5, S92.7, S92.9, T10, T12.

Abbreviations: IR= Incidence Rate; IRR = Incidence Rate Ratio