Supplementary Material

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Appendix S1. Additional description of the Danish National Health Survey and databases used in the study

For the study, we linked data from the Danish National Health Survey to several Danish nationwide registries with routinely collected data concerning aspects of medical care and education. We linked data at the individual-level using the unique 10-digit central personal registration number, which is used when recording data across the public system. The data sources used are described below.

The Danish National Health Survey

The cohort included participants of the Danish National Health Survey (also called the "How Are You?" survey, or in Danish "Hvordan har du det")—a nationwide cross-sectional survey conducted in 2010.[1] The Survey included six mutually exclusive random samples: five stratified samples from each of the five Danish Regions and one national sample.[1] The source population comprised all Danish inhabitants aged 16 years or older on January 1, 2010 (almost 4.5 million persons [www.statistikbanken.dk]). Institutionalized individuals were also eligible. The Danish Civil Registration System, [2] which has assigned the unique central personal registration number to all Danish residents at birth or emigration since 1968, was used for sampling.

In total, 298,850 persons were invited by a mailed survey letter including a paper questionnaire.[1] A link to an online version was provided as an option to the paper questionnaire in all but one sample (Central Denmark Region). Data were collected in the period February to April 2010. Postal reminders were distributed at least twice. The overall response proportion was 60% (n=177,639), varying between 52% and 66% in the six subsamples. As CPR numbers for all invited persons were available from the Survey, subsequent linkage to nationwide Danish registries has enabled comparison of responders and non-responders. It has been shown that non-responders were more likely to be male, unmarried, and have non-Danish ethnic background.[1] Statistics Denmark, the central authority on Danish statistics, has computed calibrated weights for non-response using information on various characteristics defined through linked data.[1,3] Thus, each person in the survey has been assigned a calibrated weight based on the likelihood of response from a person with the same age, sex, municipality of residence, highest complete educational level, income, marital status, ethnic background, number of visits to the general practitioner in 2007, a hospitalization in 2007 (yes/no), occupational status, owner/tenant status, and protection from inquiries during statistical and scientific surveys for all individuals living in Denmark on 1 January

2010.[1,3] The sampling technique is accounted for in the weights by weighting the municipality of residence according to its population size. We included the calibrated weights to statistically allow for study design and differential non-response.

A standard questionnaire with 52 core questions within the domains: sociodemographic characteristics, health-related quality of life, health behavior, morbidity, consequences of illness, and social relations was used in all six samples comprising the Danish National Health Survey. Furthermore, the authority responsible for each sample also had the option to add questions of interest. All regions except Region South Denmark included the 10-item version of Cohen's Perceived Stress Scale (PSS).[4]

For the current study, we had access to a large number of variables, but not all, from the survey for the population aged 25 years or older on January 1, 2010. Through the servers of Statistics Denmark, we linked the survey data to records in the Civil Registration System,[2] the Danish National Patient Registry[5] the Danish Central Psychiatric Research Registry,[6] Danish National Prescription Registry,[7] and the Population Education Registry.[8] As the exact date for when the participant filled out the questionnaire is not available, we started follow-up on May 1, 2010 for all persons, excluding those who were lost to follow-up in the CRS on this date (*i.e.*, had emigrated or died between filling in the questionnaire and May 1st).

The Danish Civil Registration System

The Civil Registration System is key to Danish registry-based research because it is responsible for assigning the Central Personal Registration number and provides a complete account of the entire Danish population on a day-to-day basis.[2] It was established in 1968 and records dates of birth, death and emigration, citizenship, place of birth, and many other variables for all residents. The Civil Registration System was used for sampling for the questionnaire, to follow the study cohort and to define certain variables (age, sex, ethnicity) in the current study.

The Danish National Patient Registry and *the Danish Central Psychiatric Research Registry*

Data on hospital diagnoses and treatments in Denmark are recorded in two discharge registries, the Danish National Patient Registry[5] and the Danish Psychiatric Central Registry,[6] which were merged in 1995. These registries provide data on all psychiatric admissions since 1970, somatic admissions since 1978, and contacts to psychiatric and somatic hospital outpatient clinics and emergency rooms since 1995.[5,6] At the end of each contact, a primary diagnosis (the main reason for contact) and

optional secondary (contributing) diagnoses are recorded by the physician in charge.[5] Diagnoses were coded using the International Classification of Diseases (ICD), 8th revision until 1994, and ICD-10 thereafter. Surgical and non-surgical procedures and treatments are also registered.

The Danish National Prescription Registry

The Danish National Prescription Registry includes anonymized data on prescriptions filled at Danish community pharmacies since January 1, 1995.[7] When a prescription is filled at the pharmacy, the patient's CPR number, dispensing details for the drug, and identifiers for the issuing physician and the pharmacy are logged by the electronic accounting system and transferred to the registry. Indication and dosing instructions are registered since April 2004, but are recorded inconsistently.

The Population Education Registry

The Population Education Registry registers attained education for residents.[8] It is based on administrative records from educational institutions and is supplemented with self-reported data for individuals completing education before 1974 and immigrants with schooling outside Denmark. In 2007, 3% of ethnic Danes born in 1945–1990 had missing data, and up to 15% of immigrants.

References

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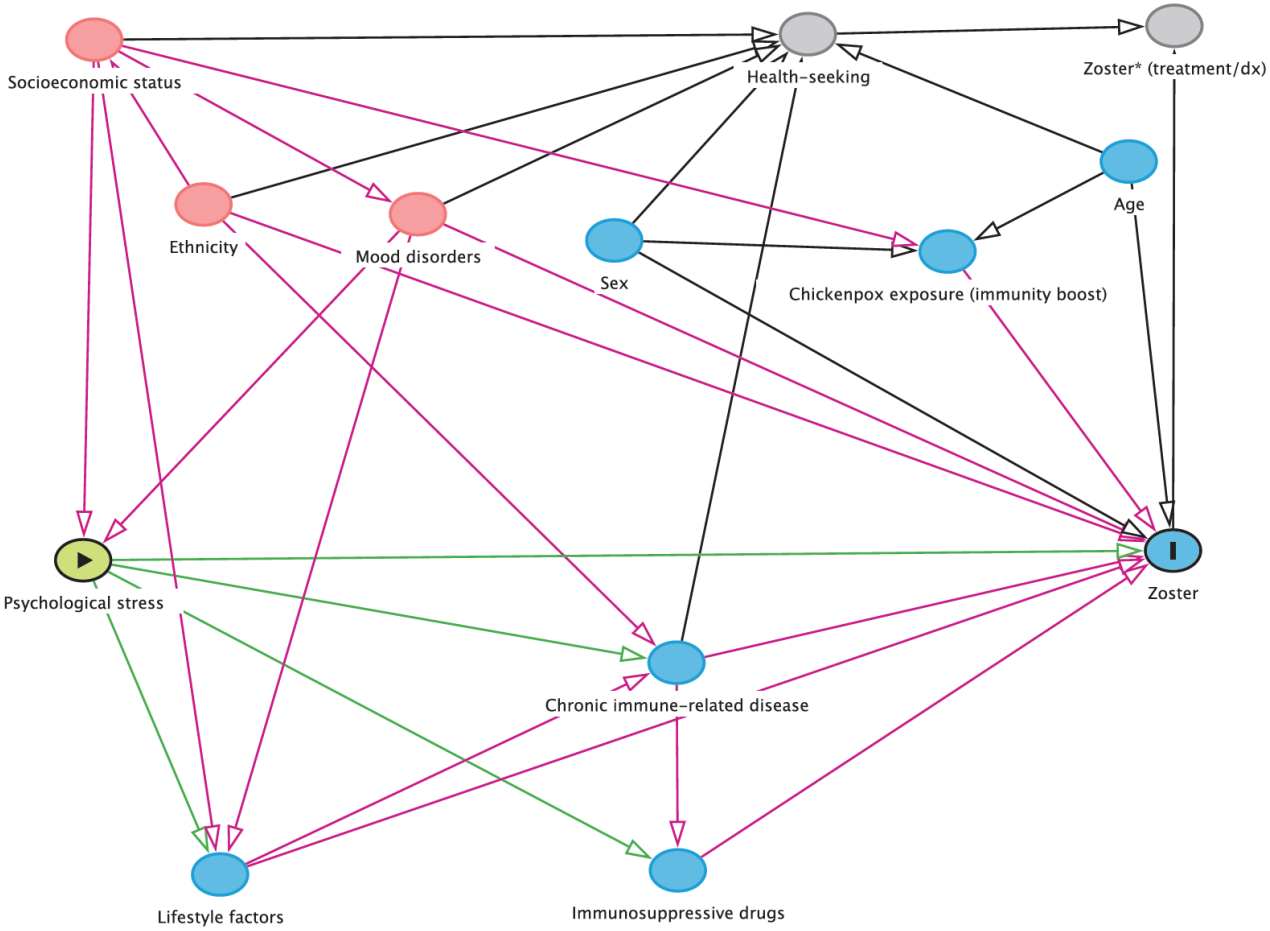
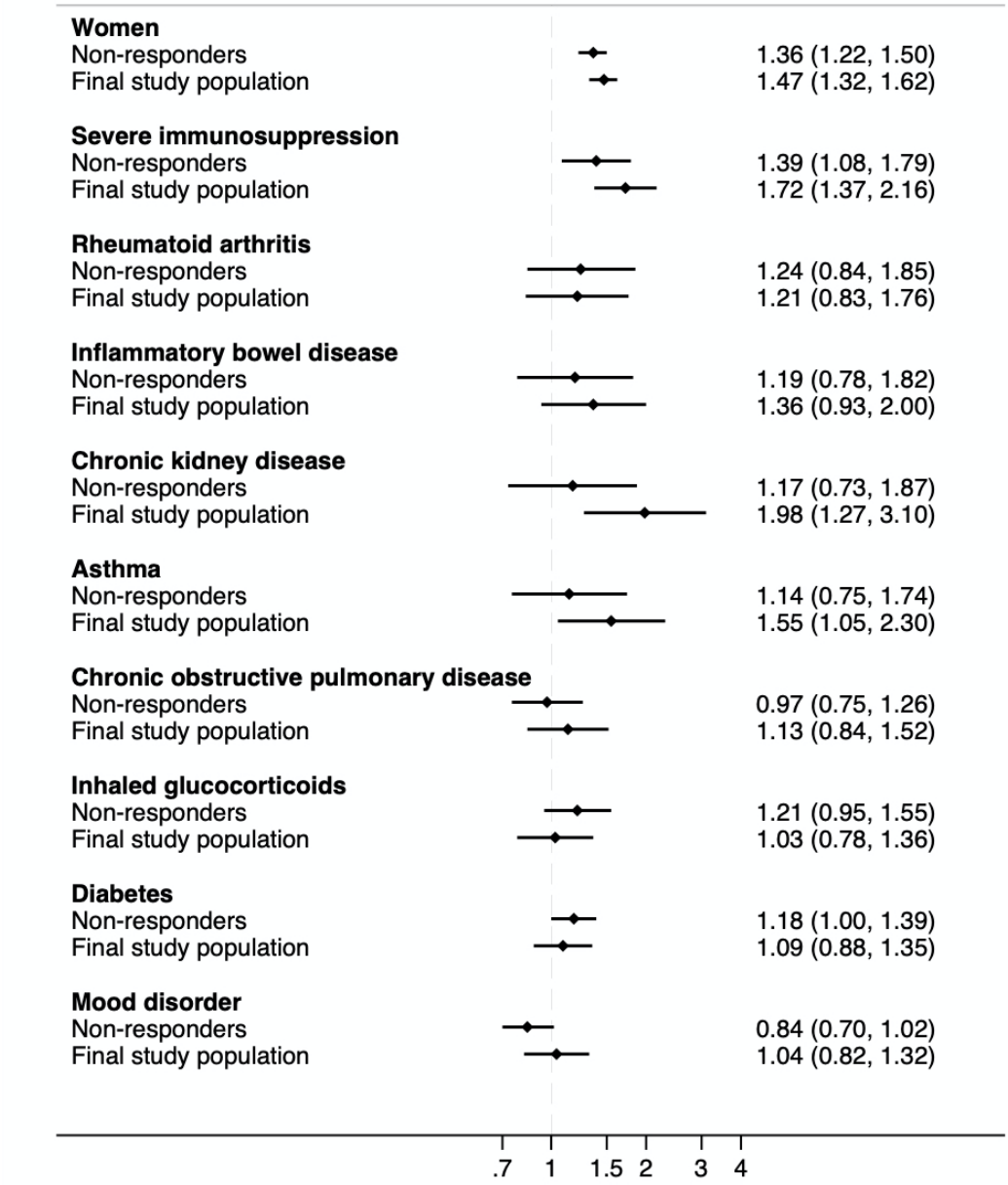
Figure S1. Directed acyclic graph illustrating the conceptual framework for the association between perceived stress and herpes zoster



Note: This figure is a simplified graph where we have combined various chronic immune-mediated diseases, immunosuppressive drugs, and lifestyle (including tobacco consumption, alcohol consumption, body mass index, and physical exercise) in three separate variables. Based on the graph, the total effect can be estimated through adjustment for mood disorder and socioeconomic status. The direct effect can be estimated through adjustment for chronic immune-related disease, immunosuppressive drugs, mood disorder, ethnicity, socioeconomic status, and lifestyle/anthropometric factors. Although the graph suggests that it may not be necessary to adjust for age and sex, these will be included by convention and because they could adjust for some residual confounding from other variables.

Note that some associations could work in both directions. For example, having a chronic immune-related disease may affect lifestyle and the ability to cope with everyday stress. If it is the case that chronic immune-related diseases both affect and can be affected by lifestyle and stress, then the total effect cannot be estimated by covariate adjustment, but the direct effect has the same minimal sufficient adjustment set. If the association between chronic immune-related diseases and lifestyle factors and stress simply works in the opposite direction than in our graph, then estimation of the total effect requires additional adjustment for the chronic immune-related diseases and the minimal sufficient adjustment set for the direct effect includes chronic immune-related disease, immunosuppressive drugs, mood disorder, socioeconomic status, and lifestyle factors.

Figure S2. Hazard ratios (95% confidence intervals) associated with study covariables based on routinely collected registry data among survey non-responders (n=68,044) and among persons in final study population (n=77,310)



Note: Only non-responders fulfilling the same eligibility criteria as the final study population were included (i.e., 40 years or older at baseline, no previous diagnosis of zoster or postherpetic neuralgia; and no previous prescription for acyclovir, valacyclovir, or famciclovir at any dose). Results for systemic lupus erythematosus not shown because of low number.

Table S1. Code lists for exposures, outcomes, and covariables

Definitions of exposure (perceived stress)

Variable	Definition	Source in the survey
Perceived stress	Psychological stress was measured on the Danish 10-item version of Cohen's Perceived Stress Scale (PSS). We included the total PSS score as a continuous measure (entered as a cubic spline) and as a categorical variable (based on quintiles): 0–6, 7–10, 11–13, 14–17, and 18+ points. A higher score indicates a higher degree of perceived stress, and scores in the highest quintile (PSS score > 17 points) are generally considered abnormal.	Based on the following10 questions: "In the past month, how often have you… 1: …been taken aback, about something that happened unexpectedly?" 2: …felt that you were unable to control the important things in your life?" 3: …felt nervous and stressed?" 4: …felt capable to handle your personal problems?" 5: …felt that things were going your way?" 6: …felt that you could **not** overcome all the things you had to do?" 7: …felt capable of dealing with the irritations of daily life?" 8: …felt that you were on top of things?" 9: …become angry, because of things that you were not in control of?" 10: …felt, that problems piled up so you could not overcome them?" Options for response included: 0: Never 1: Almost never 2: Once in a while 3: Often 4: Very often Each question was scored 0–4, with positively stated items (4, 5, 7, 8) inversely scored, and the total sum was computed.

Definitions of outcome (herpes zoster)

Type of record	Coding
Hospital diagnoses of herpes zoster	ICD-8: 053; ICD-10: DB02, DG051I, DG051M, DH031F, DH131M, DH192D, DH192J, DH220C, DH621B
Antiviral treatment in general practice	
Acyclovir	ATC code: J05AB01; Zoster specific doses (800 mg in packages of 35 pills) identified by Nordic article numbers 005404, 007109, 044597, 057554, 078015, 082158, 106864, 149871, 397653, 434183, 447144, 445715, 470021, 480533, 496455, 515258, 516328, 560359, and 587160
Valacyclovir	ATC code: J05AB011; Zoster specific doses (500 mg tablet doses) identified by **excluding** prescriptions with Nordic article number 025929, 030449, 172940, 447695, 498063, 534343, or 540242
Famciclovir	ATC code: J05AB09; Zoster specific doses (500 mg tablet doses) identified by Nordic article numbers 088196, 455584, 494756, 548975 and 550906
Hospital diagnoses of postherpetic neuralgia	ICD-10: G530

Abbreviations: ICD=International Classification of Disease; ATC=Anatomical Therapeutic Chemical Classification System

Definitions of covariables

Variable	Definition	Coding
Lifestyle and anthropometric measures		
Smoking status	We categorized persons as never smokers (reference group), former smokers, or current smokers (daily or non-daily).	Based on the question: "Do you smoke?" with the following options for response: 1: Yes, every day 2: Yes, at least once a week 3: Yes, but less than once a week 4: No, I quit 5: No, I have never smoked Coded as: Never smokers: if response 5 Former smoker: if response 4 Current smoker: if response 1-3
Weekly alcohol consumption	Based on number of standardized alcohol units consumed weekly, we categorized drinking as low-risk (≤7 for women/≤14 for men); intermediate-risk (8–14 for women/15–21 for men); or high-risk (≥15 for women/≥22 for men). We included non-drinkers in the low-risk group, which was the reference group.	Based on questions about the number of units each day during one week. The question was "How many units do you typically drink on each of the days during the week? Start with Monday and take one day at a time (fill in all fields, even if the answer is 0)". The participant was then asked to specify the number of units of beer/alcohol cider, wine/fortified wines and spirits/alcopops, respectively, for each of the seven days a week. We computed the total number of units per week, rounded and then categorized into the three categories while accounting for sex. Prior to the question about level of consumption, participants were asked "Have you consumed alcohol within the past year?". Those that responded "No" were not asked to fill in information about level of consumption.
BMI category	We categorized BMI according to the WHO definition: underweight (BMI<18.5 kg/m^2); normal weight (18.5≤BMI<25 kg/m^2); overweight (25≤BMI<30 kg/m^2); or obese (BMI≥30 kg/m^2).	BMI was computed as weight (kg) divided by height $(m)^2$ based on the response to the following two questions: "How tall are you (without shoes)?" (in cm) "How much do you weigh the whole kilos (without clothes)?" (in kilos)
Physical activity	We categorized physical activity as sedentary; light; moderate; or vigorous.	Based on the question: "Looking back at the past year, how would you best describe your physical activity during leisure time?" with the following response options: 1: Perform heavy exercise and competitive sports regularly and several times a week 2: Perform recreational sports or heavy gardening or similar activity at least 4 hours per week 3: Walking, cycling or other light exercise at least 4 hours a week (includes Sunday excursions, light gardening and cycling or walking to work) 4: Reading, watching television or other sedentary activity

		We then categorized physical activity as: Sedentary: if response 4 Light: if response 3 Moderate: if response 2 Vigorous: if response 1
Immunosuppressive and chronic diseases associated with herpes zoster		
Rheumatoid arthritis	– Any previous diagnosis in the DNPR *or* – Self-reported in the questionnaire	– ICD-8: 712.09, 712.19, 712.29, 712.39, 712.59 – ICD-10: DG737D, DI328A, DI398E, DI418A, DI528A, DJ990, DM05, DM060, DM061, DM062, DM063, DM068, DM069, DM080, DM082, DM083, DM084 – Questionnaire: Included those with response 2 or 3 to the question: "Do you or have you had rheumatoid arthritis?" where options were 1: No, I have never had it 2: Yes, I have it now 3: Yes, I have previously had it – Questionnaire: Included those with response 1 to the question: "If you have had rheumatoid arthritis, do you have sequela?" where options were : 1: Yes 2: No
Systemic/subacute lupus erythematosus	Any previous diagnosis in the DNPR	– ICD-8: 734.19; ICD-10: DL931, DG058A, DG737C, DI328B, DI398C, DJ991C, DL932, DM32, DN085A, DN164B
Inflammatory bowel disease	Any previous diagnosis in the DNPR	– ICD-8: 563.01, 563.19, 569.04; – ICD-10: DK50, DK51, DM074, DM075, DM091, DM092
Chronic kidney disease	– Any previous record of chronic kidney disease stage 3 or higher, renal failure, chronic uremia, dialysis or renal transplantation in the DNPR –	– ICD-8: 584, 792, 997.7, Y95.09 – ICD-10: DL298C, DG638A, DE853B, DT825A, DT825B, DT825C, DT856C, DI120, DI131, DI132, DI770, DN165, DN180, DN183, DN184, DN185, DN188, DN189, DN19, DT824, DT861, DZ49, DZ94, DZ992, DT817E1 – Surgery codes: KJAK10, KJAK11, KJAK13, KJAK14, KTJA30, KTJA32, KTJA35, KKAS – Treatment codes: BJFD2, BJFZ, BJKB, BUFC1, BWDC5, ZZ0151A, ZZ4341, ZZ4342, ZZ4343, ZZ4346, ZZ4347, ZZ4348, ZZ4350
Active asthma	– Any previous diagnosis in the DNPR or self-reported diagnosis in the questionnaire *and* – Asthma prescription in the Prescription Registry in the year before follow-up start *and* – No previous COPD defined as in previous variable	– ICD-8: 493 – ICD-10: DJ45, DJ46 – Questionnaire: Included those with response 2 or 3 to the question: "Do you or have you had asthma?" where options were 1: No, I have never had it 2: Yes, I have it now 3: Yes, I have previously had it – Questionnaire: Included those with response 1 to the question: "If you have had asthma, do you have sequela?" where options were : 1: Yes 2: No – ATC: R03

Chronic obstructive pulmonary disease	– Any previous diagnosis in the DNPR *and* ≥35 years at first diagnosis (all identified through questionnaire will be ≥40 years) *or* – Self-reported diagnosis in the questionnaire	– ICD-8: 491, 492 – ICD-10: DJ41, DJ42, DJ43, DJ44 – Questionnaire: Included those with response 2 or 3 to the question: "Do you or have you had chronic bronchitis, emphysema, or COPD?" where options were 1: No, I have never had it 2: Yes, I have it now 3: Yes, I have previously had it – Questionnaire: Included those with response 1 to the question: "If you have had chronic bronchitis, emphysema, or COPD, do you have sequela?" where options were : 1: Yes – 2: No
Inhaled glucocorticoids	– Any record in the Prescription Registry within 90 days before start of follow-up	– ATC: R03BA, R03AK06, R03AK07, R03AK08, R03AK09, R03AK10, R03AK11
Diabetes mellitus	– Any previous diagnosis in DNPR *or* – Self-reported diabetes in the questionnaire, *or* – ≥2 prescriptions for antidiabetics (except women treated with metformin alone at age 20 to 39 years, as that may represent treatment of polycystic ovarian syndrome)	– ICD-8: 249, 250 – ICD-10: DE10, DO240, DE11, DO241 – Questionnaire: Included those with response 2 or 3 to the question: "Do you or have you had diabetes?" where options were 1: No, I have never had it 2: Yes, I have it now 3: Yes, I have previously had it – Questionnaire: Included those with response 1 to the question: "If you have had diabetes, do you have sequela?" where options were : 1: Yes 2: No – ATC: A10A, A10B, B04AX07, C10AX04 (excluding A10BE01)
Mood disorder (moderate/severe depression, anxiety, or stress and adjustment disorder)	Any previous diagnosis in the DNPR or the Central Psychiatric Registry before start of follow-up, including also unspecific depression diagnoses such as depression in dementia.	– ICD-8: 296.09, 296.29, 296.99, 298.09, 300.49, 300.09, 300.19, 300.29, 295.79 – ICD-10: DF00x3, DF01x3, DF02x3, DF0393, DF0632, DF064, DF1x54, DF204, DF25, DF32, DF33, DF341, DF40, DF41, DF43, DF3810, DF530, DO993B2, DO993B3
Severe immunosuppression		
Human immunodeficiency virus infection	– Any previous diagnosis in the DNPR	– ICD-8: 079.83 – ICD-10: DB20, DB21, DB22, DB23, DB24, DZ21
Hematopoietic stem cell or bone marrow transplantation	– Any previous diagnosis in the DNPR	– ICD-8: None – ICD-10: DT860, DZ948C, DZ948 (if not DZ948A, DZ948B, DZ948C and if coded as a B-diagnosis or additional diagnosis together with one of the following primary diagnoses: DC770, DC81–DC96, DD45–DD47, DD50–DD85, DD87–DD89, DT860, DT860A, or DT888N) – Treatment codes: BOQE, BOQF
Other cellular immune deficiency	– Any previous diagnosis in the DNPR	– ICD-8: 284.01, 284.02, 284.08, 284.09, 758.30 – ICD-10: DD611, DD612, DD613, DD618, DD619, DD81, DD820, DD821, DD822, DD83, DD830, DD831, DD832, DD838, DD839

Leukemia	– Any previous diagnosis in the DNPR within two years before start of follow-up	– ICD-8: 204, 205, 206, 207 – ICD-10: DC91, DC92, DC93, DC94, DC95
Lymphoma	– Any previous diagnosis in the DNPR within two years before start of follow-up	– ICD-8: 200, 201, 202 – ICD-10: DC81, DC82, DC83, DC84, DC85, DC86, DC88, DC96
Myeloma	– Any previous diagnosis in the DNPR within two years before start of follow-up	– ICD-8: 203 – ICD-10: DC90
Oral glucocorticoids	Any record in the Prescription Registry within 90 days before start of follow-up	H02AB (excluding Nordic article numbers for injections)
Other immunosuppressant drugs	A prescription in the Prescription Registry or treatment code in the DNPR within 90 days before start of follow-up	– ATC: ML01, ML04, MV02CA01, or MV02CA02 used as additional code in the DNPR – Treatment codes: BOHJ, BWHA, BWHB – ATC: L01, L04, V02CA01, V02CA02 in Prescription Registry
Socio-demographic variables		
Age	Age computed based on birth date from the Civil Registration System	
Sex	From the Civil Registration System	
Country of origin	Categorized as Danish, other Western, or non-Western based on information on country of origin.	Country of origin is based on citizenship, place of birth, and parents' place of birth, as recorded in the Civil Registration System. The following algorithm is used: – When neither parents country of origin is known, the country of origin is defined based on personal information only. Thus, for immigrants, the country of birth is used. If persons are descendants, it is assumed that the country of origin is equal to the country of citizenship. – When only one parent is known, the country of origin is defined by that parent's country of birth. If this is Denmark, the citizenship country is used. – When both parents are known, the country of origin is defined based on the mother's country of birth or country of citizenship, respectively. Western countries include the countries of the European Union, Andorra, Australia, Canada, Iceland, Liechtenstein, Monaco, New Zealand, Norway, San Marino, Switzerland, the United States and the Vatican City. Non-Western countries include the European countries Albania, Bosnia and Herzegovina, Belarus, Yugoslavia, Kosovo, Macedonia, Moldova, Montenegro, Russia, Serbia, the Soviet Union, Turkey and Ukraine; all countries in Africa, South and Central America and Asia; all countries in Oceania (near Australia and New Zealand); and stateless people.
Education	Short (<10 years), intermediate (10–15 years), higher education (>15 years), according to the United Nations Educational, Scientific and Cultural Organization's (UNESCO's) classification[1]	Based on the variable 'hfaudd recorded at Statistics Denmark. The 'hfaudd' specifies the highest achieved education, determined using the main categories of the Danish nomenclature for education, DISCED. By conversion to a specific

		format ('afsp4e'), we determined length of education categorized as: – Short education (basic school and special needs education), corresponding to less than 10 years of education. – Intermediate education (upper secondary education, vocationally oriented education and training etc., bachelor programs; professional bachelor programs; academy profession programs), corresponding to >10 to 15 years of education. – High education (Master's programs and PhD), corresponding to >15 years of education
Other variables		
Calibrated survey weights	Weight enumerating the sample size, proportional to weight_pop (variable weighing the population)	See description of the calibrated weights in Supplementary Methods section.

Abbreviations: DNPR=Danish National Patient Registry; ICD=International Classification of Disease; ATC=Anatomical Therapeutic Chemical Classification System

For surgery and treatment codes, we included both main codes and additional codes (i.e., C_OPR/C_TILOPR).

[1]United Nations Educational, Scientific and Cultural Organization. International Standard Classification of Education (ISCED). 2011. Available at: http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf. Accessed April 14, 2020.

Table S2. Distribution of variables prior to excluding those with missing data

	n	%
Total	91,965	100
Age group (years)		
40–49	23,678	25.7
50–59	23,817	25.9
60–69	25,444	27.7
70–79	13,477	14.7
80+	5,549	6.0
Sex		
Men	44,017	47.9
Women	47,948	52.1
Immunosuppressive and chronic diseases		
Severe immunosuppression[a]	2.679	2.9
Rheumatoid arthritis	6,608	7.2
Systemic lupus erythematosus	96	0.1
Inflammatory bowel disease	1,112	1.2
Chronic kidney disease	616	0.7
Asthma	2,575	2.8
Chronic obstructive pulmonary disease	6,234	6.8
Inhaled corticosteroids	3,857	4.2
Diabetes	6,715	7.3
Mood disorder	4,248	4.6
Highest achieved education		
Short	24,856	27.0
Intermediate	43,642	47.5
High	21,661	23.6
Missing	1,806	2.0
Country of origin		
Danish	87,325	95.0
Other Western	2,360	2.6
Non-Western	2,280	2.5
Perceived Stress Scale, quintiles		
Score 0–6	20,322	22.1
Score 7–10	20,080	21.8
Score 11–13	15,039	16.4
Score 14–17	15,141	16.5
Score 18+	15,059	16.4
Missing	6,324	6.9
Smoking status		
Never	36,306	39.5
Former	32,267	35.1
Current	20,988	22.8
Missing	2,404	2.6
Weekly alcohol consumption		
Low-risk	65,866	71.6
Intermediate-risk	12,606	13.7
High-risk	9,305	10.1
Missing	4,188	4.6
Body mass index		
Underweight	1,398	1.5
Normal	40,047	43.5
Overweight	34,204	37.2
Obese	14,014	15.2
Missing	2,302	2.5

Physical activity		
Sedentary	13,859	15.1
Light	55,721	60.6
Moderate	18,157	19.7
Vigorous	1,487	1.6
Missing	2,741	3.0

[a]Variables for severe immunosuppression were combined because of low numbers.

Table S3. Characteristics by missingness overall, for Perceived Stress Scale (PSS) score, and for lifestyle and anthropometric factors. Values are numbers (percentages).

	All variables		PSS score		Smoking status		Alcohol consumption		BMI category		Physical activity		Education	
	Non-missing	Missing	Non-missing	Missing	Non-missing	Missing	Non-missing	Missing	Non-missing	Missing	Non-missing	Missing	Non-missing	Missing
Herpes zoster	1981 (2.6)	441 (3.0)	2230 (2.6)	192 (3.0)	2356 (2.6)	66 (2.7)	2291 (2.6)	131 (3.1)	2347 (2.6)	75 (3.3)	2345 (2.6)	77 (2.8)	2361 (2.6)	61 (3.4)
Age group (years)														
40–49	21551 (27.9)	2127 (14.5)	22822 (26.6)	856 (13.5)	23345 (26.1)	333 (13.9)	23211 (26.4)	467 (11.2)	23395 (26.1)	283 (12.3)	23388 (26.2)	290 (10.6)	23444 (26.0)	234 (13.0)
50–59	21338 (27.6)	2479 (16.9)	22832 (26.7)	985 (15.6)	23432 (26.2)	385 (16.0)	23237 (26.5)	580 (13.8)	23456 (26.2)	361 (15.7)	23434 (26.3)	383 (14.0)	23546 (26.1)	271 (15.0)
60–69	21633 (28.0)	3811 (26.0)	23904 (27.9)	1540 (24.4)	24864 (27.8)	580 (24.1)	24353 (27.7)	1091 (26.1)	24970 (27.8)	474 (20.6)	24733 (27.7)	711 (25.9)	25096 (27.8)	348 (19.3)
70–79	9915 (12.8)	3562 (24.3)	11842 (13.8)	1635 (25.9)	12894 (14.4)	583 (24.3)	12315 (14.0)	1162 (27.7)	12897 (14.4)	580 (25.2)	12713 (14.2)	764 (27.9)	13255 (14.7)	222 (12.3)
80+	2873 (3.7)	2676 (18.3)	4241 (5.0)	1308 (20.7)	5026 (5.6)	523 (21.8)	4661 (5.3)	888 (21.2)	4945 (5.5)	604 (26.2)	4956 (5.6)	593 (21.6)	4818 (5.3)	731 (40.5)
Sex														
Men	37773 (48.9)	6244 (42.6)	41555 (48.5)	2462 (38.9)	43009 (48.0)	1008 (41.9)	42320 (48.2)	1697 (40.5)	43244 (48.2)	773 (33.6)	42745 (47.9)	1272 (46.4)	43162 (47.9)	855 (47.3)
Women	39537 (51.1)	8411 (57.4)	44086 (51.5)	3862 (61.1)	46552 (52.0)	1396 (58.1)	45457 (51.8)	2491 (59.5)	46419 (51.8)	1529 (66.4)	46479 (52.1)	1469 (53.6)	46997 (52.1)	951 (52.7)
Highest achieved education														
Short	18967 (24.5)	5889 (45.8)	21950 (26.1)	2906 (48.4)	23751 (27.0)	1105 (48.4)	22759 (26.4)	2097 (52.3)	23800 (27.0)	1056 (49.3)	23504 (26.8)	1352 (51.9)	N/A	N/A
Intermediate	38518 (49.8)	5124 (39.9)	41385 (49.2)	2257 (37.6)	42791 (48.7)	851 (37.3)	42170 (48.9)	1472 (36.7)	42847 (48.7)	795 (37.1)	42696 (48.8)	946 (36.3)	N/A	N/A
High	19825 (25.6)	1836 (14.3)	20824 (24.7)	837 (14.0)	21336 (24.3)	325 (14.2)	21221 (24.6)	440 (11)	21370 (24.3)	291 (13.6)	21353 (24.4)	308 (11.8)	N/A	N/A
Country of origin														
Danish	73997 (95.7)	13328 (90.9)	81499 (95.2)	5826 (92.1)	85087 (95.0)	2238 (93.1)	83397 (95.0)	3928 (93.8)	85145 (95.0)	2180 (94.7)	84783 (95.0)	2542 (92.7)	86022 (95.4)	1303 (72.1)
Other Western	1836 (2.4)	524 (3.6)	2194 (2.6)	166 (2.6)	2318 (2.6)	42 (1.7)	2272 (2.6)	88 (2.1)	2313 (2.6)	47 (2.0)	2311 (2.6)	49 (1.8)	2126 (2.4)	234 (13.0)
Non-Western	1477 (1.9)	803 (5.5)	1948 (2.3)	332 (5.2)	2156 (2.4)	124 (5.2)	2108 (2.4)	172 (4.1)	2205 (2.5)	75 (3.3)	2130 (2.4)	150 (5.5)	2011 (7.1)	269 (14.9)
Immunosuppressive and chronic diseases														
Severe immunosuppression[a]	2107 (2.7)	572 (3.9)	2416 (2.8)	263 (4.2)	2577 (2.9)	102 (4.2)	2479 (2.8)	200 (4.8)	2584 (2.9)	95 (4.1)	2569 (2.9)	110 (4.0)	2611 (2.9)	68 (3.8)
Rheumatoid arthritis	5236 (6.8)	1372 (9.4)	6099 (7.1)	509 (8.0)	6414 (7.2)	194 (8.1)	6205 (7.1)	403 (9.6)	6382 (7.1)	226 (9.8)	6354 (7.1)	254 (9.3)	6386 (7.1)	222 (12.3)

Systemic lupus erythematosus	77 (0.1)	19 (0.1)	b	b	b	b	b	b	b	b	b	b	b	b
Inflammatory bowel disease	925 (1.2)	187 (1.3)	1024 (1.2)	88 (1.4)	1084 (1.2)	28 (1.2)	1062 (1.2)	50 (1.2)	1087 (1.2)	25 (1.1)	1067 (1.2)	45 (1.6)	1091 (1.2)	21 (1.2)
Chronic kidney disease	427 (0.6)	189 (1.3)	517 (0.6)	99 (1.6)	585 (0.7)	31 (1.3)	557 (0.6)	59 (1.4)	581 (0.6)	35 (1.5)	567 (0.6)	49 (1.8)	588 (0.7)	28 (1.6)
Asthma	2210 (2.9)	365 (2.5)	2420 (2.8)	155 (2.5)	2517 (2.8)	58 (2.4)	2474 (2.8)	101 (2.4)	2522 (2.8)	53 (2.3)	2517 (2.8)	58 (2.1)	2536 (2.8)	39 (2.2)
Chronic obstructive pulmonary disease	4822 (6.2)	1412 (9.6)	5624 (6.6)	610 (9.6)	6047 (6.8)	187 (7.8)	5770 (6.6)	464 (11.1)	6011 (6.7)	223 (9.7)	5938 (6.7)	296 (10.8)	6048 (6.7)	186 (10.3)
Inhaled corticosteroids	3003 (3.9)	854 (5.8)	3465 (4.0)	392 (6.2)	3728 (4.2)	129 (5.4)	3570 (4.1)	287 (6.9)	3724 (4.2)	133 (5.8)	3686 (4.1)	171 (6.2)	3772 (4.2)	85 (4.7)
Diabetes	5107 (6.6)	1608 (11.0)	5983 (7.0)	732 (11.6)	6451 (7.2)	264 (11.0)	6217 (7.1)1	498 (11.9)	6432 (7.2)	283 (12.3)	6389 (7.2)	326 (11.9)	6511 (7.2)	204 (11.3)
Mood disorder	3373 (4.4)	875 (6.0)	3854 (4.5)	394 (6.2)	4115 (4.6)	133 (5.5)	3952 (4.5)	296 (7.1)	4093 (4.6)	155 (6.7)	4082 (4.6)	166 (6.1)	4138 (4.6)	110 (6.1)
Perceived Stress Scale, quintiles														
Score 0–6	19004 (24.6)	1318 (15.8)	N/A	N/A	20071 (23.9)	251 (14.8)	19889 (24.1)	433 (14.6)	20095 (23.9)	227 (14.6)	20033 (23.9)	289 (15.6)	20093 (23.9)	229 (15.5)
Score 7–10	18499 (23.9)	1581 (19.0)	N/A	N/A	19739 (23.5)	341 (20.1)	19534 (23.6)	546 (18.4)	19778 (23.5)	302 (19.4)	19761 (23.6)	319 (17.2)	19831 (23.6)	249 (16.8)
Score 11–13	13717 (17.7)	1322 (15.9)	N/A	N/A	14773 (17.6)	266 (15.7)	14591 (17.6)	448 (15.1)	14799 (17.6)	240 (15.4)	14738 (17.6)	301 (16.3)	14802 (17.6)	237 (16.0)
Score 14–17	13387 (17.3)	1754 (21.1)	N/A	N/A	14775 (17.6)	366 (21.6)	14483 (17.5)	658 (22.2)	14832 (17.6)	309 (19.9)	14719 (17.6)	422 (22.8)	14876 (17.7)	265 (17.9)
Score 18+	12703 (16.4)	2356 (28.3)	N/A	N/A	14586 (17.4)	473 (27.9)	14183 (17.2)	876 (29.6)	14582 (17.3)	477 (30.7)	14539 (17.4)	520 (28.1)	14557 (17.3)	502 (33.9)
Smoking status														
Never	31389 (40.9)	4917 (40.1)	33874 (40.4)	2432 (43.3)	N/A	N/A	34994 (40.7)	1312 (37.1)	35484 (40.5)	822 (42.9)	35426 (40.6)	880 (39.0)	35636 (40.6)	670 (39.8)
Former	27941 (36.1)	4326 (35.3)	30408 (36.2)	1859 (33.1)	N/A	N/A	30949 (36.0)	1318 (37.3)	31610 (36.1)	657 (34.4)	31499 (36.1)	768 (34.0)	31643 (36.0)	624 (37.1)
Current	17980 (23.3)	3008 (24.6)	19662 (23.4)	1326 (23.6)	N/A	N/A	20086 (23.3)	902 (25.5)	20551 (23.4)	437 (22.8)	20377 (23.3)	611 (27.0)	20599 (23.4)	389 (23.1)
Weekly alcohol consumption														
Low-risk	57483 (74.4)	8383 (40.1)	61730 (74.7)	4136 (81.1)	64428 (74.9)	1438 (82.3)	N/A	N/A	64461 (74.9)	1405 (81.7)	64218 (74.9)	1648 (80.6)	64543 (74.9)	1323 (81.3)
Intermediate-risk	11438 (14.8)	1168 (11.2)	12044 (14.6)	562 (11.0)	12423 (14.4)	183 (10.5)	N/A	N/A	12433 (14.4)	173 (10.1)	12406 (14.5)	200 (9.8)	12450 (14.5)	156 (9.6)
High-risk	8389 (10.9)	916 (8.8)	8906 (10.8)	399 (7.8)	9178 (10.7)	127 (7.3)	N/A	N/A	9164 (10.6)	141 (8.2)	9109 (10.6)	196 (9.6)	9157 (10.6)	148 (9.1)
Body mass index														
Underweight	1104 (1.4)	294 (2.4)	1270 (1.5)	128 (2.3)	1360 (1.6)	38 (1.9)	1293 (1.5)	105 (2.9)	N/A	N/A	1342 (1.5)	56 (2.5)	1326 (1.5)	72 (4.4)

Normal	34633 (44.8)	5414 (43.8)	37510 (44.6)	2537 (45.5)	39187 (44.7)	860 (42.6)	38551 (44.8)	1496 (41.5)	N/A	N/A	39910 (44.7)	937 (42.4)	39296 (44.6)	751 (45.6)
Overweight	29621 (38.3)	4583 (37.1)	32189 (38.3)	2015 (36.1)	33470 (38.2)	734 (36.4)	32840 (38.2)	1364 (37.8)	N/A	N/A	33355 (38.1)	849 (38.4)	33645 (38.2)	559 (34.0)
Obese	11952 (15.5)	2062 (16.7)	13117 (15.6)	897 (16.1)	13628 (15.5)	386 (19.1)	13374 (15.5)	640 (17.8)	N/A	N/A	13645 (15.6)	369 (16.7)	13750 (15.6)	264 (16.0)
Physical activity														
Sedentary	10630 (13.7)	3229 (27.1)	12340 (14.7)	1519 (28.0)	13366 (15.3)	493 (25.7)	1293 (1.5)	988 (28.3)	13252 (15.2)	607 (34.3)	N/A	N/A	13159 (15.0)	700 (41.9)
Light	48856 (63.2)	6865 (57.6)	52628 (62.8)	3093 (56.9)	54623 (62.6)	1098 (57.1)	53697 (62.6)	2024 (58.0)	54775 (62.6)	946 (53.4)	N/A	N/A	54937 (62.7)	784 (46.9)
Moderate	16522 (21.4)	1635 (13.7)	17426 (20.8)	731 (13.5)	17861 (20.5)	296 (15.4)	17740 (20.7)	417 (11.9)	17960 (20.5)	197 (11.1)	N/A	N/A	17987 (20.5)	170 (10.2)
Vigorous	1302 (1.7)	185 (1.6)	1396 (1.7)	91 (1.7)	1452 (1.7)	35 (1.8)	1425 (1.7)	62 (1.8)	1465 (1.7)	22 (1.2)	N/A	N/A	1470 (1.7)	17 (1.0)

Abbreviations: N/A, not applicable

[a]Variables for severe immunosuppression were combined because of low numbers. The higher prevalence among those with missing data was driven by difference for oral glucocorticoids.

[b]Not shown because of low numbers.

Table S4. Odds ratios (95% confidence intervals) for missingness associated with study variables overall, for Perceived Stress Scale (PSS) score, and for lifestyle and anthropometric factors

	Overall[a]	PSS score	Smoking status	Alcohol consumption	BMI category	Physical activity	Education
Observations	91,965	81,294	78,564	79,625	78,440	78,690	78,471
Herpes zoster	0.95 (0.85–1.06)	1.00 (0.83–1.21)	0.60 (0.39–0.92)	1.06 (0.84–1.34)	0.90 (0.62–1.29)	0.97 (0.70–1.33)	1.07 (0.77–1.48)
Age group (years)							
40–49	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)
50–59	1.20 (1.13–1.28)	1.11 (1.00–1.24)	1.18 (0.98–1.40)	1.11 (0.96–1.28)	1.10 (0.92–1.33)	1.32 (1.09–1.60)	1.27 (1.04–1.56)
60–69	1.90 (1.79–2.01)	1.62 (1.46–1.79)	1.57 (1.32–1.86)	1.90 (1.66–2.18)	1.19 (0.99–1.43)	2.25 (1.88–2.68)	2.11 (1.73–2.56)
70–79	3.85 (3.63–4.10)	2.77 (2.48–3.08)	2.50 (2.08–3.01)	3.18 (2.76–3.67)	2.08 (1.71–2.53)	3.94 (3.27–4.74)	2.60 (2.08–3.25)
80+	10.0 (9.32–10.8)	4.24 (3.71–4.85)	3.73 (2.95–4.72)	4.31 (3.61–5.15)	3.42 (2.71–4.31)	5.15 (4.10–6.47)	17.9 (14.6–22.1)
Sex							
Women	1.30 (1.25–1.35)	1.30 (1.21–1.39)	1.02 (0.91–1.15)	1.18 (1.08–1.29)	1.70 (1.50–1.94)	0.81 (0.73–0.91)	0.80 (0.71–0.91)
Highest achieved education (years)							
Short	N/A	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)
Intermediate	N/A	0.67 (0.63–0.73)	0.73 (0.64–0.83)	0.63 (0.57–0.69)	0.76 (0.66–0.87)	0.66 (0.59–0.75)	-
High	N/A	0.52 (0.47–0.58)	0.62 (0.52–0.83)	0.41 (0.35–0.47)	0.60 (0.50–0.72)	0.49 (0.41–0.58)	-
Country of origin							
Danish	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)
Other Western	1.66 (1.49–1.84)	1.37 (1.13–1.66)	0.99 (0.67–1.45)	1.11 (0.84–1.46)	1.02 (0.69–1.50)	0.95 (0.65–1.39)	9.99 (8.39–11.9)
Non-Western	4.47 (4.08–4.91)	3.06 (2.60–3.60)	2.23 (1.65–3.01)	2.20 (1.57–2.55)	1.00 (1.65–1.53)	2.52 (1.89–3.36)	14.4 (11.9–17.4)
Immunosuppressive and chronic diseases							
Severe immunosuppression[b]	0.95 (0.86–1.05)	0.98 (0.82–1.17)	0.91 (0.65–1.27)	0.96 (0.77–1.19)	0.84 (0.60–1.16)	0.81 (0.60–1.10)	0.75 (0.54–1.05)
Rheumatoid arthritis	1.14 (1.07–1.22)	0.91 (0.80–1.03)	0.91 (0.73–1.12)	1.10 (0.95–1.27)	1.18 (0.96–1.44)	1.10 (0.91–1.33)	1.02 (0.84–1.24)
Systemic lupus erythematosus	1.16 (0.68–1.96)	1.36 (0.58-3.19)	c	0.78 (0.19–3.20)	c	c	c
Inflammatory bowel disease	1.09 (0.92–1.28)	1.13 (0.85–1.49)	1.02 (0.61–1.71)	1.04 (0.72–1.50)	0.70 (0.37–1.31)	1.34 (0.87–2.07)	0.77 (0.41–1.47)
Chronic kidney disease	1.49 (1.23–1.79)	1.56 (1.15–2.11)	0.83 (0.41–1.69)	1.10 (0.71–1.69)	1.22 (0.68–2.20)	1.46 (0.90–2.37)	1.20 (0.71–2.03)
Asthma	0.84 (0.73–0.96)	0.80 (0.63–1.01)	0.93 (0.62–1.39)	0.92 (0.69–1.23)	0.80 (0.53–1.22)	0.85 (0.57–1.26)	0.99 (0.65–1.52)
Chronic obstructive pulmonary disease	1.01 (0.94–1.10)	0.86 (0.75–0.99)	0.66 (0.50–0.86)	1.00 (0.85–1.18)	0.88 (0.69–1.13)	0.89 (0.72–1.11)	0.96 (0.77–1.21)
Inhaled corticosteroids	1.24 (1.11–1.37)	1.31 (1.09–1.57)	1.05 (0.73–1.50)	1.25 (1.01–1.56)	1.31 (0.95–1.81)	1.21 (0.89–1.62)	0.86 (0.61–1.21)
Diabetes	1.29 (1.21–1.37)	1.12 (0.99–1.25)	1.06 (0.87–1.30)	1.07 (0.93–1.23)	1.35 (1.11–1.64)	1.05 (0.87–1.26)	1.03 (0.85–1.25)
Mood disorder	1.32 (1.21–1.43)	1.15 (1.00–1.33)	0.95 (0.73–1.25)	1.17 (0.98–1.40)	0.99 (0.76–1.28)	1.01 (0.79–1.29)	0.97 (0.74–1.26)
Perceived Stress Scale, quintiles							
Score 0–6	N/A	N/A	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)

Score 7–10	N/A	N/A	1.29 (1.08-1.54)	1.20 (1.04-1.38)	1.20 (0.99-1.45)	1.13 (0.95-1.02)	1.02 (0.84-1.24)
Score 11–13	N/A	N/A	1.22 (1.00-1.48)	1.23 (1.06-1.42)	1.12 (0.91-1.37)	1.36 (1.13-1.63)	1.16 (0.95-1.42)
Score 14–17	N/A	N/A	1.59 (1.32-1.91)	1.55 (1.35-1.78)	1.19 (0.97-1.45)	1.65 (1.38-1.96)	1.06 (0.87-1.29)
Score 18+	N/A	N/A	1.82 (1.51-2.19)	1.80 (1.57-2.08)	1.56 (1.29-1.90)	1.71 (1.43-2.05)	1.47 (1.21-1.77)
Smoking status							
Never	N/A	(ref.)	N/A	(ref.)	(ref.)	(ref.)	(ref.)
Former	N/A	0.83 (0.77–0.89)	N/A	1.10 (1.00–1.22)	0.99 (0.86–1.14)	0.90 (0.79–1.02)	0.99 (0.86–1.14)
Current	N/A	0.97 (0.89–1.06)	N/A	1.17 (1.04–1.31)	1.08 (0.92–1.27)	1.15 (1.00–1.32)	1.09 (0.93–1.28)
Weekly alcohol consumption							
Low-risk	N/A	(ref.)	(ref.)	N/A	(ref.)	(ref.)	N/A
Intermediate-risk	N/A	0.85 (0.77–0.94)	0.83 (0.70–0.98)	N/A	0.79 (0.65–0.95)	0.82 (0.69–0.97)	0.88 (0.73-1.07)
High-risk	N/A	0.82 (0.73–0.92)	0.71 (0.58–0.88)	N/A	0.94 (0.77–1.15)	0.93 (0.77–1.10)	1.04 (0.85-1.26)
Body mass index							
Underweight	N/A	(ref.)	(ref.)	(ref.)	N/A	(ref.)	(ref.)
Normal	N/A	1.12 (0.87–1.45)	1.19 (0.73–1.95)	0.77 (0.58–1.02)	N/A	0.81 (0.55–1.18)	0.55 (0.40–0.77)
Overweight	N/A	1.07 (0.83–1.38)	1.15 (0.70–1.88)	0.81 (0.61–1.08)	N/A	0.82 (0.56–1.20)	0.50 (0.35–0.70)
Obese		1.02 (0.78–1.33)	1.40 (0.85–2.31)	0.84 (0.63–1.13)	N/A	0.71 (0.48–1.06)	0.59 (0.41–0.84)
Physical activity							
Sedentary	N/A	(ref.)	(ref.)	(ref.)	(ref.)	N/A	1 (ref.)
Light	N/A	0.76 (0.70–0.83)	1.06 (0.90–1.25)	0.86 (0.77–0.96)	0.65 (0.56–0.75)	N/A	0.57 (0.50–0.66)
Moderate	N/A	0.73 (0.65–0.82)	1.21 (0.99–1.48)	0.80 (0.69–0.94)	0.57 (0.46–0.71)	N/A	0.55 (0.42–0.65)
Vigorous	N/A	1.11 (0.85-1.44)	1.57 (1.01-2.45)	1.36 (0.96-1.93)	0.70 (0.40-1.24)	N/A	0.42 (0.22-0.80)

Abbreviations: N/A, not applicable

[a]The overall model was not adjusted for variables with missing data, as that would predict outcome (missingness) perfectly.

[b]Variables for severe immunosuppression were combined because of low numbers.

[c]Not shown because of low numbers

Table S5. Cohort characteristics at follow-up start, by Perceived Stress Scale score[a]

	Quintile of Perceived Stress Scale score									
	Score 0-6		Score 7-10		Score 11-13		Score 14-17		Score 18+	
	n	%	n	%	n	%	n	%	n	%
Age group (years)										
40–49	4,698	29.5	5,122	32.6	3,809	31.9	3,575	29.9	4,055	32.1
50–59	4,176	26.2	4,249	27.0	3,225	27.0	3,179	26.6	3,633	28.8
60–69	4,712	29.5	4,050	25.8	3,028	25.4	2,909	24.4	2,614	20.7
70–79	1,880	11.8	1,763	11.2	1,356	11.4	1,566	13.1	1,443	11.4
80+	486	3.0	534	3.4	521	4.4	714	6.0	867	6.9
Mean age (standard error)	58.0 (0.094)		57.2 (0.096)		57.6 (0.12)		58.6 (0.12)		57.9 (0.13)	
Sex										
Men	9,309	58.4	8,446	53.7	6,034	50.5	5,640	47.2	5,374	42.6
Women	6,643	41.6	7,272	46.3	5,905	49.5	6,303	52.8	7,237	57.4
Immunosuppressive and chronic diseases										
Rheumatoid arthritis	605	3.8	732	4.7	809	6.8	1,014	8.5	1,884	14.9
Systemic lupus erythematosus	5	0	19	0.1	9	0.1	16	0.1	20	0.2
Inflammatory bowel disease	170	1.1	178	1.1	124	1.0	138	1.2	213	1.7
Chronic kidney disease	49	0.3	64	0.4	54	0.5	90	0.8	127	1.0
Asthma	416	2.6	443	2.8	336	2.8	366	3.1	422	3.3
Chronic obstructive pulmonary disease	561	3.5	670	4.3	696	5.8	910	7.6	1,662	13.2
Inhaled corticosteroids	464	2.9	495	3.2	399	3.3	518	4.3	766	6.1
Diabetes	749	4.7	826	5.3	694	5.8	981	8.2	1,291	10.2
Mood disorder	281	1.8	361	2.3	439	3.7	643	5.4	1,726	13.7
Severe immunosuppression	301	1.9	320	2.0	313	2.6	355	3.0	596	4.7
Highest achieved education (years)										
Short	3,007	18.8	3,257	20.7	2,878	24.1	3,508	29.1	4,506	35.7
Intermediate	7,852	49.2	8,052	51.2	6,105	51.1	5,944	49.8	5,840	46.3
High	5,094	31.9	4,410	28.1	2,955	24.8	2,491	20.9	2,265	18.0
Country of origin										
Danish	15,254	95.6	14,541	95.1	11,204	93.8	10,946	91.7	11,099	88.0
Other Western	547	3.4	494	3.1	446	3.7	467	3.9	515	4.1
Non-Western	152	1.0	270	1.7	290	2.4	529	4.4	997	7.9
Smoking status										
Never	7,092	44.5	6,666	42.4	4,744	39.7	4,565	38.2	4,253	33.7
Former	5,638	35.3	5,6650	35.9	4,377	36.7	4,263	35.7	3,976	31.5
Current	3,222	20.2	3,402	21.6	2,818	23.6	3,114	26.1	4,383	34.8
Weekly alcohol consumption										
Low-risk	11,911	74.7	11,792	75.0	8,926	74.8	8,939	74.8	9,500	75.3
Intermediate-risk	2,417	15.1	2,310	14.7	1,738	14.6	1,673	14.0	1,461	11.6
High-risk	1,625	10.2	1,615	10.3	1,275	10.7	1,331	11.2	1,651	13.1
Body mass index category										
Underweight	166	1.0	191	1.2	148	1.2	191	1.6	351	2.8
Normal	7,473	46.8	7,261	46.2	5,379	45.1	5,221	43.7	5,210	41.3
Overweight	6,237	39.1	6,159	39.2	4,624	38.7	4,458	37.3	4,477	35.5
Obese	2,076	13.0	2,107	13.4	1,788	15.0	2,073	17.4	2,574	20.4
Physical activity										
Sedentary	1,361	8.5	1,93	10.1	1,416	11.9	2,054	17.2	3,726	29.5
Light	9,677	60.7	9,885	62.9	7,685	64.4	7,668	64.2	7,355	58.3
Moderate	4,515	38.3	3,913	24.9	2,613	21.9	2,051	17.2	1,370	10.9

Vigorous	399	2.5	327	2.1	226	1.9	169	1.4	160	1.3

[a]We included the calibrated weights to statistically account for survey design and differential non-response in analyses.

Table S6. Fully-adjusted hazard ratios (95% confidence intervals)[a] for the association between Perceived Stress Scale score and herpes zoster, by age and sex

Variable	Quintile of Perceived Stress Scale score				
	Score 0–6	Score 7–10	Score 11–13	Score 14–17	Score 18+
Age group (years)					
40–49	(ref.)	1.11 (0.79–1.55)	0.92 (0.64–1.33)	1.12 (0.78–1.61)	1.38 (0.97–1.97)
50–59	(ref.)	0.82 (0.61–1.11)	1.18 (0.87–1.60)	0.85 (0.61–1.20)	1.02 (0.72–1.43)
60–69	(ref.)	1.06 (0.83–1.36)	1.04 (0.78–1.38)	1.07 (0.81–1.42)	1.07 (0.78–1.46)
70–79	(ref.)	0.97 (0.69–1.37)	0.95 (0.65–1.40)	1.09 (0.77–1.55)	1.10 (0.76–1.59)
80+	(ref.)	1.33 (0.65–2.72)	1.85 (0.95–3.61)	1.62 (0.84–3.13)	1.20 (0.61–2.36)
Sex					
Men	(ref.)	0.91 (0.73–1.14)	1.14 (0.91–1.43)	1.04 (0.81–1.32)	1.07 (0.82–1.39)
Women	(ref.)	1.08 (0.88–1.32)	1.05 (0.84–1.30)	1.09 (0.88–1.34)	1.21 (0.97–1.49)

[a]Adjusted for sex, various immunosuppressive and chronic diseases (listed in Table 2 of main paper), country of origin, education level, smoking status, weekly alcohol consumption, BMI and physical activity. Underlying time scale was age and we included the calibrated weights to statistically account for survey design and differential non-response.