Supplementary Table 1. An overview of the single morbidities with their definitions and the disease domains.

Infectious and parasitic diseases	Neoplasms	Diseases of the blood and blood-forming organs
Use systemic antiinfectives Systemic antiinfectives = ATC code J	Self-reported cancer (excluding non-melanoma skin cancer)	Anemia: - Self-reported **and** use of anti-anemic preparations **or** - Hemoglobin concentration <13 g/dl in men **or** - Hemoglobin concentration <12 g/dl in women Bleeding disorder: - Self-reported **and** use of anti-thrombotic drugs **or** - Self-reported **and** use of anti-hemorrhagic drugs Anti-anemic preparations = ATC code B03; anti-thrombotic drugs = ATC code B01AA, B01AB; anti-hemorrhagic drugs = ATC-code B02
Endocrine, nutritional and metabolic diseases	**Mental, behavioral and neurodevelopmental disorders**	**Diseases of the nervous system**
Diabetes: - Self-reported **or** - Use of oral blood-glucose lowering agents and/or insulin **or** - Fasting glucose levels ≥7.0 mmol/L **or**	Depression: If MINI available: - Current depressive disorder **and** use of antidepressants - Dysthymic disorder **and** use of	Dementia / Alzheimer's disease: - Self-reported **or** - MMSE-score <24 if education level low/medium **and** age ≥65 years **or** - MMSE-score<25 if education level high **and**

- Non-fasting glucose level ≥11.1 mmol/L

Hypercholesterolemia:
- Self-reported myocardial infarction **and** cholesterol ≥5.0 mmol/L **or**
- Use of lipid lowering medication **or**
- Cholesterol ≥ 6.5 mmol/L

Endocrine gland disorder:
- Use of hydrocortisone
- Use of somatropin/somatropin agonist
- Use of desmopressin

Insulin = ATC code A10A; oral blood-glucose lowering agents = ATC code A10B; lipid lowering medication = ATC C10A, C10B; hydrocortisone = ATC code H02AB09; somatropin/somatropin agonist = ATC code H01CB; desmopressin = ATC code H01BA02

antidepressants
If MINI not available:
- Self-reported **and** use of antidepressants

Anxiety disorder:
If MINI available:
- Any anxiety disorder
If MINI not available:
- Self-reported

Schizophrenia:
- Self-reported

Attention-deficit/hyperactivity disorder (ADHD):
- Self-reported

Antidepressants = ATC-code N06A

age ≥ 65 years

Migraine:
- Self-reported

Epilepsy:
- Self-reported **and** use of anti-epileptics

Back or neck hernia:
- Self-reported

Parkinson's disease:
- Self-reported **and** use of anti-Parkinson's drugs

Multiple sclerosis:
- Self-reported

Spasticity:
- Self-reported

Anti-epileptics = ATC-code N03; anti-Parkinson's drugs= ATC-code N04

Diseases of the eye and adnexa
Cataract:
- Self-reported

Glaucoma:
- Use of antiglaucoma preparations

Diseases of the ear and mastoid process
Chronic sinusitis of throat and/or nose:
- Self-reported **and** use of local or systemic decongestive drugs

Diseases of the circulatory system
Hypertension:
- Blood pressure >140/90mmHg **or**
- Use of anti-hypertensive medication

Heart failure:

Severe limitations due to eyesight:
- Self-reported

Antiglaucoma preparations = S01E

Severe hearing impairment
- Self-reported

Local or systemic decongestive drugs = ATC code R01

- Self-reported **and** use of (any) heart failure-related medication
- Self-reported heart transplant
- Self-reported pacemaker

Vascular disease:
- Self-reported myocardial infarction, stroke, PCI & CABG **and** use of vitamin K antagonists **or**
- Self-reported myocardial infarction, stroke, PCI & CABG **and** use of ascal/acetylsalicylic acid **or**
- Self-reported myocardial infarction, stroke, PCI & CABG **and** use of clopidogrel

Atrial fibrillation:
- Self-reported as 'diagnosed by a MD' **and** use of vitamin K antagonists **or**
- Self-reported pacemaker

Thrombosis:
- Self-reported **and** use of anti-thrombotic drugs

Lung emboli:
- Self-reported **and** use of anti-thrombotic drugs

Anti-hypertensive medication = ATC code C02, C03, C04, C07, C08, C09; heart failure-

related medication = ATC code C03, C07, C08, C09; vitamin K antagonists = ATC B01AA; ascal/acetylsalicylic acid = B01AC06, B01AC08; clopidogrel = B01AC04; anti-thrombotic drugs = ATC code B01AA, B01AB

Diseases of the respiratory system

Asthma:
- Doctors diagnosed asthma **or**
- 2 or more self-reported symptoms of: wheeze, attacks at rest, woken by an attack **and** use of asthma /COPD medication **or**
- Self-reported asthma **and** use of asthma/COPD medication COPD

Chronic obstructive pulmonary disease (COPD):
- If spirometry available: GOLD classification: I-IV in ever smokers (current or ex) **or**
- If spirometry not available: self-reported COPD **and** use of asthma/COPD medication **and** age >40 in ever smokers (current or ex)

Chronic mucus hypersecretion/chronic bronchitis:
- Phlegm production during day or night,

Diseases of the digestive system

Liver disease:
- Self-reported liver cirrhosis

Inflammatory bowel disease:
- Self-reported ulcerative colitis **or**
- Self-reported Morbus Crohn

Celiac disease:
- Self-reported

Gastric disease:
- Self-reported ulcus pepticum **and** use of H2-antagonists, prostaglandins, protonpumpinhibitors (PPI)

Irritable bowel syndrome:
- Self-reported

H2-antagonists, prostaglandins, protonpumpinhibitors = ATC code A02

Diseases of the skin and subcutaneous tissue

Acne:
- Self-reported severe acne **and** use of acne suppressor

Eczema:
- Self-reported **and** use of emollients and/or dermatological corticosteroids

Psoriasis:
- Self-reported psoriasis **and** use of psoriasis suppressor

Acne suppressor = ATC code D10; Emollients and/or dermatological corticosteroids = ATC code D02; Psoriasis suppressor = ATC code D05

or immediately after waking up during at least 3 months/year

Asthma/COPD medication = ATC code R03

Diseases of the musculoskeletal system and connective tissue

Osteoarthritis:
- Self-reported **and** use of analgesics **or**
- Self-reported symptoms of pain in hands & feet **and** use of analgesics **or**
- Self-reported symptoms of joint stiffness **and** use of analgesics

Gout:
- Use of anti-gout medication

Osteoporosis:
- Self-reported **and** use of calci chew D3 **and** bisphosphonates **or**
- Self-reported **and** use of denosumab

Rheumatoid arthritis:
- Self-reported **and** use of NSAIDS/DMARDS/ biological/methotrexate **or**
- 2 or more self-reported symptoms of pain in hands & feet or joint stiffness **and** use of NSAIDS/DMARDS/ biological/methotrexate

Diseases of the genitourinary system

Chronic bladder infection:
- Self-reported **and** use of anti-microbial drugs

Benign prostatic hypertrophy:
- Use of benign prostatic hypertrophy-related drugs

Hysterectomy or surgical extirpation of 2 ovaries:
- Self-reported

Impaired renal function:
- eGFR ≥60 ml/min/1.73m^2 with albuminuria (>30 mg/24h) if available **or**
- eGFR <60 ml/min/1.73m^2 **or**
- Kidney transplant

Kidney stones:
- Self-reported

Anti-microbial drugs = ATC code G01; Benign prostatic hypertrophy-related drugs = ATC code G04C

Fibromyalgia:
- Self-reported

Hip fracture in last 12 months:
- Self-reported

Analgesics = ATC-code N02A, N02BE01, M01AB, M01AE; Anti-gout medication = ATC code M04; Calci Chew D3 = ATC code A12XA; Bisphosphonates = ATC code M05AB, M05BB; Denosumab = ATC code M05BX04; NSAIDS = ATC code M01AB, M01AE; DMARDS = ATC code M01; Biological = ATC code L04AB, L04AC, L04AA24, L01XC02; methotrexate = ATC code L01BA01

Supplementary Table 2. The odds ratios for having a lower score than the (age- and sex-specific) 25th percentile cut-off per HRQoL dimension, according to affected disease domains.

|	Physical functioning		Social functioning		Physical role functioning		Emotional role functioning	
	OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value
Infectious diseases	1.42 (1.27-1.58)	<0.001	1.42 (1.28-1.57)	<0.001	1.52 (1.35-1.70)	<0.001	1.17 (1.02-1.35)	0.024
Neoplasms	1.13 (1.05-1.22)	0.001	1.15 (1.28-1.57)	<0.001	1.37 (1.27-1.48)	<0.001	1.10 (1.00-1.21)	0.049
Blood and blood-forming organs diseases	1.19 (1.12-1.26)	<0.001	1.04 (0.98-1.09)	0.23	1.23 (1.16-1.52)	<0.001	1.24 (1.08-1.24)	<0.001
Endocrine, nutritional and metabolic diseases	1.02 (0.98-1.05)	0.32	1.08 (1.04-1.11)	<0.001	1.10 (1.06-1.14)	<0.001	0.97 (0.93-1.02)	0.22
Mental, behavioral and neurodevelopmental disorders	1.91 (1.84-1.99)	<0.001	4.02 (3.87-4.18)	<0.001	2.44 (2.35-2.54)	<0.001	5.99 (5.76-6.23)	<0.001
Nervous system diseases	1.52 (1.48-1.56)	<0.001	1.41 (142-1.53)	<0.001	1.65 (1.60-1.70)	<0.001	1.25 (1.20-1.30)	<0.001
Diseases of the eye and adnexa	1.13 (1.05-1.22)	0.001	1.16 (1.08-1.24)	<0.001	1.35 (1.26-1.46)	<0.001	1.24 (1.13-1.35)	<0.001
Diseases of the ear and mastoid process	1.50 (1.36-1.65)	<0.001	1.67 (1.53-1.84)	<0.001	1.80 (1.63-1.98)	<0.001	1.30 (1.16-1.46)	<0.001
Circulatory system diseases	0.99 (0.96-1.02)	0.36	1.03 (1.00-1.06)	0.042	1.00 (0.97-1.04)	0.86	0.87 (0.84-0.91)	<0.001
Respiratory system diseases	1.65 (1.61-1.70)	<0.001	1.33 (1.30-.37)	<0.001	1.44 (1.40-1.49)	<0.001	1.22 (1.17-1.27)	<0.001
Digestive system diseases	1.51 (1.45-1.57)	<0.001	1.47 (1.42-1.53)	<0.001	1.68 (1.61-1.75)	<0.001	1.40 (1.34-1.47)	<0.001
Skin and subcutaneous tissue diseases	1.32 (1.13-1.53)	<0.001	1.18 (1.02-1.37)	0.024	1.29 (1.00-1.52)	0.002	1.50 (1.25-1.80)	<0.001
Musculoskeletal system and connective tissue diseases	4.85 (4.60-5.12)	<0.001	2.30 (2.19-2.42)	<0.001	3.93 (3.74-4.14)	<0.001	1.49 (1.40-1.58)	<0.001

	Mental health OR (95% CI)	P-value	Vitality OR (95% CI)	P-value	Bodily pain OR (95% CI)	P-value	General health OR (95% CI)	P-value
Genitourinary system diseases	0.98 (0.94-1.03)	0.48	0.94 (0.90-0.98)	0.008	1.18 (1.12-1.24)	<0.001	1.04 (0.98-1.10)	0.25
Infectious diseases	1.12 (1.00-1.25)	0.042	1.28 (1.15-1.43)	<0.001	1.60 (1.43-1.78)	<0.001	1.56 (1.40-1.73)	<0.001
Neoplasms	1.07 (1.00-1.15)	0.066	1.08 (1.01-1.16)	0.035	1.13 (1.05-1.22)	0.001	1.31 (1.22-1.41)	<0.001
Blood and blood-forming organs diseases	1.04 (0.98-1.10)	0.17	0.99 (0.94-1.05)	0.82	1.14 (1.07-1.21)	<0.001	1.15 (1.09-1.22)	<0.001
Endocrine, nutritional and metabolic diseases	1.07 (1.04-1.11)	<0.001	1.18 (1.14-1.22)	<0.001	1.07 (1.03-1.11)	<0.001	1.14 (1.10-1.18)	<0.001
Mental, behavioral and neurodevelopmental disorders	5.33 (5.13-5.53)	<0.001	3.77 (3.64-3.92)	<0.001	2.10 (2.02-2.18)	<0.001	2.74 (2.64-2.84)	<0.001
Nervous system diseases	1.20 (1.17-1.24)	<0.001	1.25 (1.21-1.28)	<0.001	1.98 (1.93-2.04)	<0.001	1.39 (1.35-1.43)	<0.001
Diseases of the eye and adnexa	1.19 (1.11-1.28)	<0.001	1.30 (1.21-1.40)	<0.001	1.14 (1.06-1.23)	<0.001	1.14 (1.06-1.22)	<0.001
Diseases of the ear and mastoid process	1.28 (1.16-1.40)	<0.001	1.63 (1.48-1.79)	<0.001	1.70 (1.54-1.87)	<0.001	1.92 (1.75-2.11)	<0.001
Circulatory system diseases	1.01 (0.98-1.04)	0.48	1.09 (1.06-1.12)	<0.001	0.99 (0.96-1.02)	0.40	1.07 (1.04-1.10)	<0.001
Respiratory system diseases	1.24 (1.20-1.28)	<0.001	1.38 (1.34-1.42)	<0.001	1.33 (1.29-1.37)	<0.001	1.73 (1.68-1.78)	<0.001
Digestive system diseases	1.40 (1.35-1.46)	<0.001	1.46 (1.40-1.52)	<0.001	1.85 (1.78-1.92)	<0.001	1.83 (1.77-1.90)	<0.001
Skin and subcutaneous tissue diseases	1.31 (1.13-1.52)	<0.001	1.16 (1.00-1.36)	0.06	1.03 (0.87-1.21)	0.76	1.43 (1.23-1.66)	<0.001
Musculoskeletal system and connective tissue diseases	1.36 (1.29-1.43)	<0.001	2.23 (2.12-2.35)	<0.001	6.55 (6.20-6.91)	<0.001	3.05 (2.90-3.21)	<0.001

| Genitourinary system diseases | 0.97 (0.93-1.02) | 0.24 | 1.06 (1.01-1.11) | 0.021 | 1.20 (1.14-1.25) | <0.001 | 1.03 (0.98-1.07) | 0.30 |

The model included thyroid hormone use, body mass index, smoking status as covariates. CI, confidence interval; OR, odds ratio.

SFigure 1. Forest plot demonstrating the odds ratios for having an affected disease domain according to thyroid hormone use and sex. Logistic regression analyses included age as covariate. Circles indicate odds ratios for each cohort, with horizontal lines corresponding to 95% confidence intervals
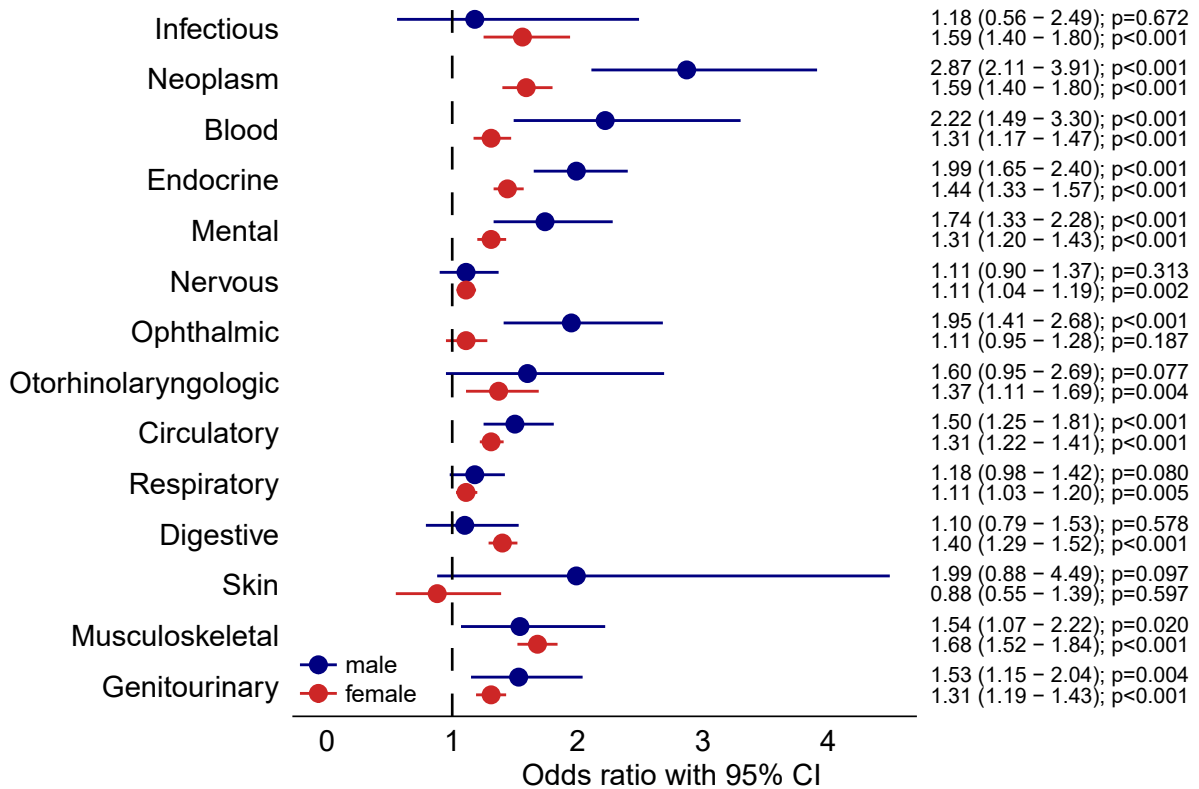
SFigure 2. Percentage of thyroid hormone users and non-users with an affected single morbidity.
For benign prostatic hypertrophy the percentage of male thyroid hormone users and male non-users is shown, whereas for gynecologic surgery the percentage of female thyroid hormone users and female non-users is shown. ADHD, attention-deficit/hyperactivity disorder; COPD, chronic obstructive pulmonary disease.
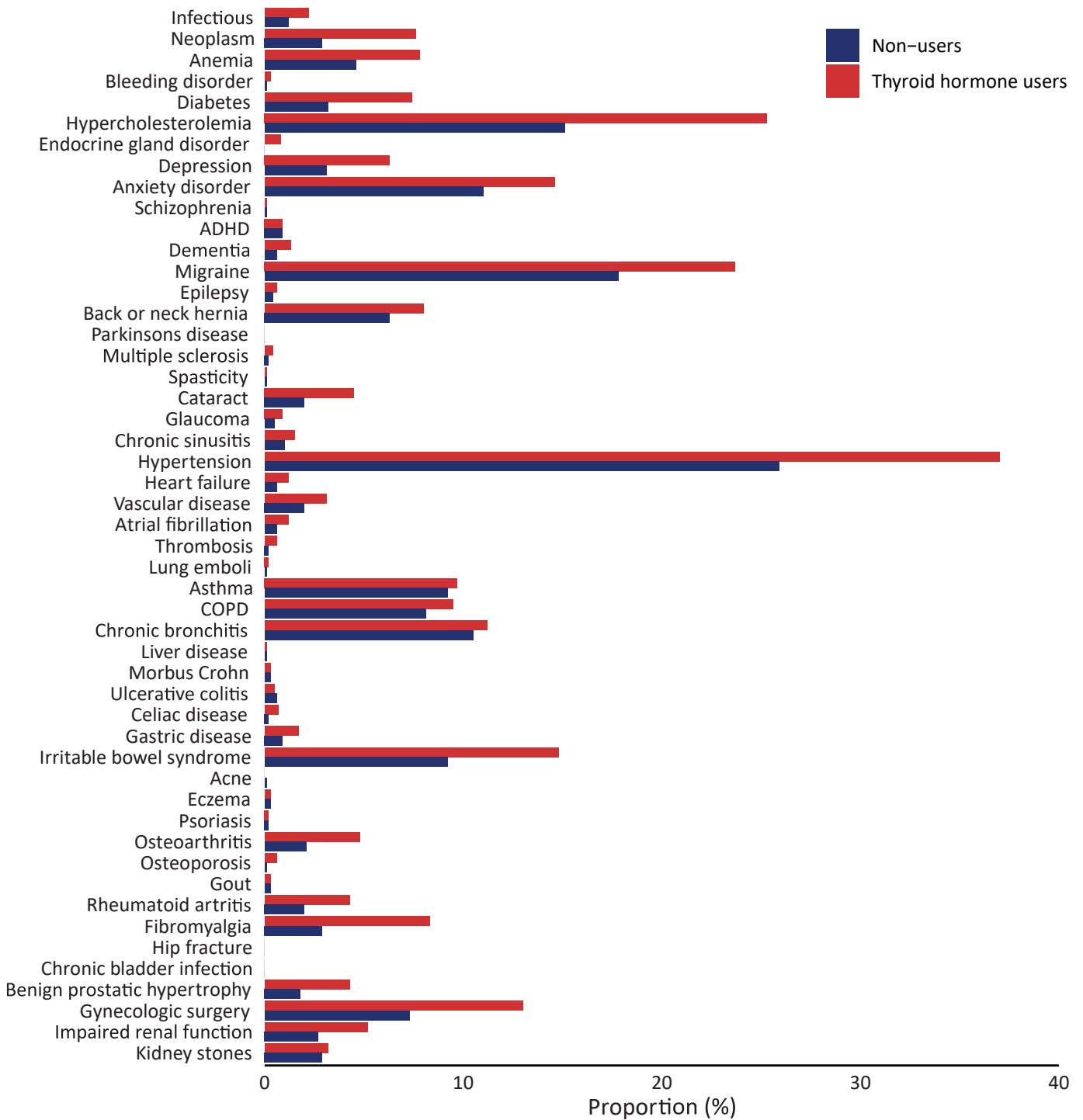
SFigure 3. Forest plot on a log scale demonstrating the odds ratios for having an affected single morbidity according to thyroid hormone use. Logistic regression analyses included age and sex as covariates. Circles indicate odds ratios for each cohort, with horizontal lines corresponding to 95% confidence intervals. The analyses concering benign prostatic hypertrophy and gynecologic surgery were performed for respectively males and females only.

Morbidity	Odds ratio (95% CI); p-value
Infectious	1.50 (1.22 - 1.85); p<0.001
Neoplasm	1.69 (1.51 - 1.91); p<0.001
Anemia	1.27 (1.13 - 1.42); p<0.001
Bleeding disorder	2.23 (1.25 - 3.99); p=0.007
Diabetes	1.84 (1.16 - 2.08); p<0.001
Hypercholesterolemia	1.44 (1.34 - 1.56); p<0.001
Endocrine gland disorder	28.24 (17.55 - 45.44); p<0.001
Depression	1.62 (1.43 - 1.84); p<0.001
Anxiety disorder	1.23 (1.13 - 1.34); p<0.001
Schizophrenia	2.20 (0.95 - 5.08); p=0.064
ADHD	1.60 (1.16 - 2.20); p=0.004
Dementia	0.96 (0.72 - 1.29); p=0.796
Migraine	1.11 (1.04 - 1.19); p=0.003
Epilepsy	1.41 (0.95 - 2.09); p=0.085
Back or neck hernia	1.15 (1.03 - 1.29); p=0.012
Parkinsons disease	0.79 (0.19 - 3.29); p=0.744
Multiple sclerosis	1.30 (0.80 - 2.09); p=0.291
Spasticity	0.71 (0.26 - 1.92); p=0.496
Cataract	1.25 (1.07 - 1.46); p=0.004
Glaucoma	1.28 (0.92 - 1.78); p=0.141
Chronic sinusitis	1.32 (1.04 - 1.69); p=0.025
Hypertension	1.38 (1.29 - 1.48); p<0.001
Heart failure	1.47 (1.09 - 1.97); p=0.011
Vascular disease	1.38 (1.15 - 1.65); p<0.001
Atrial fibrillation	1.42 (1.07 - 1.89); p=0.016
Thrombosis	1.93 (1.28 - 2.91); p=0.002
Lung emboli	1.19 (0.60 - 2.35); p=0.615
Asthma	1.16 (1.05 - 1.29); p=0.003
COPD	0.98 (0.88 - 1.09); p=0.678
Chronic bronchitis	1.19 (1.08 - 1.30); p<0.001
Liver disease	1.05 (0.42 - 2.60); p=0.916
Morbus Crohn	0.90 (0.53 - 1.51); p=0.678
Ulcerative colitis	0.76 (0.49 - 1.16); p=0.200
Celiac disease	2.42 (1.65 - 3.56); p<0.001
Gastric disease	1.63 (1.29 - 2.06); p<0.001
Irritable bowel syndrome	1.37 (1.23 - 1.46); p<0.001
Acne	0.51 (0.07 - 3.71); p=0.509
Eczema	0.99 (0.58 - 1.70); p=0.971
Psoriasis	1.16 (0.61 - 2.19); p=0.650
Osteoarthritis	1.60 (1.38 - 1.84); p<0.001
Osteoporosis	1.89 (1.24 - 2.87); p=0.003
Gout	1.82 (1.07 - 3.09); p=0.026
Rheumatoid artritis	1.47 (1.26 - 1.71); p<0.001
Fibromyalgia	1.80 (1.61 - 2.01); p<0.001
Benign prostatic hypertrophy	1.20 (0.77 - 1.88); p=0.422
Gynecologic surgery	1.25 (1.13 - 1.39); p<0.001
Impaired renal function	1.45 (1.26 - 1.66); p<0.001
Kidney stones	1.04 (0.88 - 1.24); p=0.623

Odds ratio with 95% CI (log scale)