
Birth order and disease risk across the human phenome

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1 Supplementary Methods

1.1 Parent inference algorithm

Within each enrollment family, we inferred parents using a heuristic birth-year gap rule. For each family with ≥ 2 members, we identified the oldest and youngest “candidate children” (members with birth year ≥ 1978 and age 12–60 in the data year). We then identified potential parents as the youngest male and youngest female among family members who met two criteria: (i) their birth year placed them at age 18–69 at the youngest candidate child’s birth, and (ii) they were ≥ 15 years older than the oldest candidate child (to prevent older siblings from being misclassified as parents).

This heuristic correctly identifies biological parents in the vast majority of cases but may occasionally misclassify step-parents, grandparents, or unrelated adult dependents. To mitigate this, we introduced a “full-sibling-like” quality control flag.

1.2 Full-sibling consistency flag

For full biological siblings with the same two parents, the difference in parental age at birth between sibling 2 and sibling 1 should approximately equal the sibling age gap. We defined `full_sib_like = 1` if:

- Both paternal and maternal ages at birth exist for both siblings,
- The sibling age gap exists, and
- $|(\text{father_age}_2 - \text{father_age}_1) - \text{gap}| \leq 1$ and $|(\text{mother_age}_2 - \text{mother_age}_1) - \text{gap}| \leq 1$.

Families failing this check may include blended families, step-siblings, or families with data errors.

1.3 Disease code definitions

We defined 569 diseases using ICD-9-CM and ICD-10-CM code groupings following previously described phenotyping approaches based on longitudinal diagnosis records. The full mapping from disease names to ICD codes was implemented in the project analysis code. A disease was considered present for an individual if ≥ 1 qualifying code appeared anywhere in their diagnostic history during the observation window.

1.4 Between-family confounder construction

For computational efficiency, the between-family analysis used aggregated frequency tables (one row per unique covariate pattern) rather than individual-level data. For each of the 569 diseases, we created a CSV file tabulating the joint distribution of disease status (0/1), birth order (1/2), sex, sibling gap (bucketed), age at last observation (bucketed), years of follow-up (continuous), paternal age at birth (5-year bins), maternal age at birth (5-year bins), father psychiatric history

(0/1), mother psychiatric history (0/1), urbanization group, county FIPS code, ICD coding era (ICD-9 vs ICD-10), calendar period (5-year bins), the full-sibling consistency flag.

Weighted logistic regression was then applied to these frequency tables with `count` as the weight.

1.5 Stricter clinical matching sensitivity analysis

We performed an additional post hoc between-family sensitivity analysis using a clinically enriched rematching strategy designed to tighten baseline comparability while preserving a usable matched sample size. The stricter rematch continued to pair first-borns and second-borns from different families, but required exact agreement on sex, birth year, Census direction, urbanization tertile, age at start of observation, sibling age gap, and baseline Charlson comorbidity score. We then applied a caliper of ± 50 days on enrollment visibility, ± 1 year on paternal and maternal age at birth, and applied a ± 0.1 caliper on the baseline medication-based disease burden index (MDBI).

To avoid collapsing the matched sample, we did not require exact state matching in this stricter sensitivity analysis. Geographic robustness was instead assessed separately using the state fixed-effects models described in the main text. Baseline clinical indices used for the strict rematch were derived from the first 365 observed enrollment days before outcome ascertainment. The final stricter rematch contained 529,760 cross-family pairs (1,059,520 individuals), after which the primary between-family regressions were repeated and compared with the main between-family analysis.

1.6 Within-family model specifications

We fitted four model specifications per disease:

1. **COHORT**: birth order + age category + sex + log(follow-up) + birth year (centered) + ICD era + strata(family)
2. **COHORT+PERIOD** (primary): as COHORT, plus calendar period (5-year bins derived from observation-window mid-year)
3. **PERIOD**: birth order + age category + sex + log(follow-up) + calendar period + ICD era + strata(family) (drops birth year; assesses sensitivity to cohort vs. period)
4. **COHORT+GAP_INT**: as COHORT, plus a birth-order $\times$ gap-category interaction (tests whether sibling spacing modulates the birth-order effect within families)

The COHORT+PERIOD specification serves as the primary model because it simultaneously adjusts for secular diagnostic trends (via period) and birth-cohort effects (via centered birth year), while the family stratification absorbs all time-invariant family confounders.

1.7 Reproductive stoppage dataset construction

The reproductive stoppage analysis used a different cohort from the main analyses. Starting from extracted family and enrollment databases derived from the annual Merative MarketScan DEMO files, we identified all families with at least one child meeting basic criteria (birth year ≥ 1978 , age 12–60, ≥ 365 days visible). For each of four key first-born excess diseases (autism, ADHD, tics/Tourette syndrome, and the other/unspecified pervasive-developmental-disorder code group), we identified whether the first-born (oldest child meeting criteria) had any qualifying diagnosis and whether the family contained a second eligible child. This yielded a raw cohort of 14,017,746 families, of which 4,799,163 had only one eligible child (“stopped”) and 9,218,583 had two or more (“continued”). After complete-case filtering for the adjusted logistic model covariates, 10,016,101 families remained, including 2,898,161 one-child families and 7,117,940 two-plus-child families. For each disease, we fitted a separate logistic regression with “has second child” (0/1) as the outcome and “first-born diagnosis” as the exposure, adjusting for first-born sex, birth year, enrollment duration, parental ages, and calendar period, with HC1 robust standard errors.

1.8 Statistical model specifications

Between-family logistic regression. For each disease d , we modeled the probability of diagnosis as a function of birth order and covariates using weighted logistic regression on frequency-collapsed data:

$$\text{logit}(P(Y_{id} = 1)) = \beta_0 + \beta_1 \cdot \text{BirthOrder}_i + \boldsymbol{\gamma}^\top \mathbf{X}_i \quad (1)$$

where $Y_{id} \in \{0, 1\}$ is the disease indicator for individual i , $\text{BirthOrder}_i \in \{1, 2\}$ (first-born = 1, second-born = 2), and $\mathbf{X}_i$ is a vector of covariates:

$$\mathbf{X}_i = [\text{Gap}_{\text{cat}}, \text{AgeLast}_{\text{cat}}, \text{Sex}, \text{PaternalAge}_{5\text{yr}}, \text{MaternalAge}_{5\text{yr}}, \\ \text{FatherPsych}, \text{MotherPsych}, \text{Urbanization}, \text{ICDera}, \text{Period}_{5\text{yr}}, \\ \text{FullSibFlag}, \log(\text{FollowUp})]^\top$$

Standard errors were clustered at the county level using HC1 robust variance estimation. The primary estimand is $\exp(\beta_1)$, the odds ratio for second-born versus first-born. In the state fixed-effects specification, 51 state indicators (50 states + DC) were appended to $\mathbf{X}_i$.

Within-family conditional logistic regression. For each disease, we fitted a conditional logistic regression stratified on family f , equivalent to a Cox proportional-hazards model with exact partial likelihood:

$$P(Y_{1f} = 1 \mid Y_{1f} + Y_{2f} = 1) = \frac{\exp(\beta_1 \cdot \text{BirthOrder}_{1f} + \boldsymbol{\delta}^\top \mathbf{Z}_{1f})}{\sum_{j \in \{1, 2\}} \exp(\beta_1 \cdot \text{BirthOrder}_{jf} + \boldsymbol{\delta}^\top \mathbf{Z}_{jf})} \quad (2)$$

where the summation runs over the two siblings in family f , and all family-level confounders (parental genetics, household SES, geography, family health attitudes) are absorbed by the conditioning. The covariate vector $\mathbf{Z}$ varied across the four specifications:

Within-family model specifications. All models are stratified on family identifier.

Specification	Covariates in $\mathbf{Z}$
(i) COHORT	BirthYear _{centered} , AgeLast _{cat} , Sex, log(FollowUp), ICDera
(ii) COHORT+PERIOD*	As (i), plus Period _{5yr}
(iii) PERIOD	AgeLast _{cat} , Sex, log(FollowUp), Period _{5yr} , ICDera
(iv) COHORT+GAP_INT	As (i), plus BirthOrder $\times$ Gap _{cat} interaction

*Primary specification.

Reproductive stoppage model. For each of four diseases, the family-level stoppage model was:

$$\text{logit}(P(\text{HasSecondChild}_f = 1)) = \alpha_0 + \alpha_1 \cdot \text{FirstBornDx}_f + \boldsymbol{\phi}^\top \mathbf{W}_f \quad (3)$$

where $\text{FirstBornDx}_f \in \{0, 1\}$ indicates whether the first-born in family f received the diagnosis, and $\mathbf{W}_f$ includes first-born sex, birth year, enrollment duration, paternal and maternal age, and calendar period. HC1 robust standard errors were used. $\exp(\alpha_1) < 1$ indicates reproductive stoppage (diagnosis reduces probability of a second child).

1.9 Healthcare utilization sensitivity analysis

To assess potential confounding by differential healthcare contact, we computed the total number of distinct claim days (unique dates with any diagnostic code) per individual in the strict clinical cohort from the DX diagnostic claims database. We then re-estimated all between-family logistic regression models with $\log(n_{\text{visits}} + 1)$ as an additional covariate, using the same bucketed frequency-table approach as the primary analysis (visit counts were rounded to the nearest 0.1 on the log scale). Concordance between unadjusted and visit-adjusted birth-order ORs was assessed by Pearson correlation of $\log_2(\text{OR})$ estimates across all analyzable diseases.

1.10 Sex-stratified analysis

We re-estimated all between-family logistic regression models separately in males ($\text{sex} = 1$) and females ($\text{sex} = 2$) from the strict clinical cohort, omitting sex from the covariate set since it is constant within each stratum. A minimum of 200 cases per sex-specific stratum was required for model convergence. Male–female concordance was assessed by Pearson correlation of $\log_2(\text{OR})$ estimates across diseases analyzable in both sexes.

2 Supplementary Tables

Supplementary Table 1: **Selected between-family results for 20 diseases.** Top 10 first-born excess and top 10 second-born excess associations among the 418 analyzed diseases. OR compares second-born to first-born, OR < 1 indicates first-born excess. FDR q is the Benjamini–Hochberg adjusted P -value.

Disease	N cases	Prev. %	OR	Lower	Upper	P	FDR q
<i>Top 10 first-born excess (lowest OR)</i>							
Other/unspecified PDD codes	18,557	0.57	0.569	0.552	0.587	2.7×10^{-278}	5.7×10^{-276}
Tics / Tourette syndrome	16,549	0.51	0.693	0.672	0.715	4.0e-116	6.0e-115
Autism	19,985	0.62	0.737	0.714	0.760	1.2e-81	1.0e-80
OCD	27,656	0.86	0.773	0.754	0.792	1.2e-90	2.0e-89
Pubertal dysfunction	19,617	0.61	0.778	0.758	0.799	7.6e-78	6.0e-77
Developmental delay	16,943	0.52	0.794	0.768	0.820	2.0e-43	7.0e-43
Food allergy	36,440	1.13	0.797	0.777	0.816	9.7e-73	7.0e-72
Ocular musculoskeletal	81,141	2.51	0.801	0.783	0.821	1.4e-74	1.0e-73
Seborrheic dermatitis	70,190	2.17	0.844	0.830	0.858	2.5e-92	2.0e-91
Adjustment disorder	247,268	7.65	0.855	0.846	0.864	3.0e-181	5.0e-180
<i>Top 10 second-born excess (highest OR)</i>							
Herpes zoster	25,508	0.79	1.348	1.311	1.385	4.7e-100	4.0e-99
Substance abuse	177,202	5.48	1.192	1.179	1.204	3.8e-227	2.0e-225
Biliary tract disease	51,213	1.58	1.179	1.158	1.201	6.2e-70	5.0e-69
Gastritis / duodenitis	116,788	3.61	1.142	1.127	1.157	4.3e-85	4.0e-84
Migraine	166,609	5.15	1.128	1.116	1.140	2.3e-107	3.0e-106
Non-specific cardiovascular	119,129	3.68	1.119	1.104	1.134	2.1e-57	1.0e-56
UTI	365,998	11.32	1.107	1.094	1.119	5.6e-73	4.0e-72
Non-specific pain	918,807	28.41	1.099	1.093	1.105	5.8e-234	5.0e-232
Non-specific GI disorder	282,923	8.75	1.096	1.085	1.106	5.8e-73	4.0e-72
Menstrual disorder	419,719	12.98	1.091	1.083	1.100	7.6e-105	7.0e-104

Supplementary Table 2: **Matching balance.** Pre- and post-matching means, standard deviations, and standardized mean differences (SMD) for all matching variables. Sib1 = first-born; Sib2 = second-born within matched pairs.

Variable	Pre-match					Post-match				
	Mean ₁	SD ₁	Mean ₂	SD ₂	SMD	Mean ₁	SD ₁	Mean ₂	SD ₂	SMD
Days visible	1,455	1,267	1,666	1,379	−0.159	2,053	1,609	2,053	1,609	0.000
Paternal age	31.4	5.4	35.0	5.5	−0.655	31.8	5.4	33.3	5.0	−0.303
Maternal age	29.4	5.0	32.9	5.0	−0.714	29.7	4.8	31.4	4.5	−0.363
Age gap	3.66	2.58	3.66	2.58	0.000	3.19	1.73	3.04	1.58	0.088
Sex	1.48	0.50	1.50	0.50	−0.028	1.48	0.50	1.48	0.50	0.000
Birth year	1,993	6.1	1,997	6.1	−0.603	1,992	4.9	1,992	4.9	0.000

Supplementary Table 3: **Within-family results by model specification for selected diseases.** OR compares second-born to first-born within families (conditional logistic regression). COHORT = cohort-adjusted, C+P = cohort + period (primary), and PERIOD = period only. n_{disc} = number of discordant sibling pairs.

Disease	n_{disc}	COHORT			C+P (primary)			PERIOD		
		OR	95% CI	P	OR	95% CI	P	OR	95% CI	P
Autism	78,643	0.805	.786–.824	4e-74	0.804	.786–.823	1e-74	0.885	.867–.904	4e-30
ADHD	619,278	0.938	.930–.945	6e-54	0.936	.929–.944	6e-56	0.963	.956–.970	2e-25
Allergic rhinitis	1,160,954	0.911	.906–.916	2e-249	0.911	.906–.916	2e-252	0.963	.958–.967	9e-57
Food allergy	75,258	0.902	.879–.925	2e-15	0.901	.878–.924	1e-15	0.985	.964–1.007	0.186
Acne	908,006	0.921	.915–.928	3e-120	0.918	.912–.924	1e-130	0.918	.913–.923	3e-196
Substance abuse	452,072	1.139	1.127–1.150	3e-136	1.141	1.129–1.153	1e-139	0.980	.972–.988	2e-6
Depression	743,344	0.954	.947–.960	7e-38	0.955	.948–.962	2e-35	0.941	.935–.947	1e-82
Obesity	360,505	0.936	.927–.946	2e-36	0.938	.929–.948	6e-34	0.931	.922–.939	1e-53

Supplementary Table 4: **Reproductive stoppage analysis for four key first-born excess diseases.** For each disease, we modeled whether a first-born diagnosis predicts the family having a second child, using 10,016,101 complete-case families from the full MarketScan database. The model adjusts for first-born sex, birth year, enrollment duration, parental ages, and calendar period, with robust (HC1) standard errors. $\text{OR} < 1$ indicates that a first-born diagnosis is associated with *reduced* probability of having a second child (reproductive stoppage); $\text{OR} > 1$ indicates the opposite.

Disease	First-borns dx'd	Primary BF OR	Stoppage OR (95% CI)	P	Interpretation
Autism	76,824	0.737	0.870 (0.856–0.885)	2.6×10^{-62}	Modest stoppage (−13%)
Tics/Tourette	39,488	0.693	0.960 (0.937–0.982)	5.5×10^{-4}	Marginal stoppage (−4%)
ADHD	740,032	0.934	1.011 (1.005–1.017)	1.7×10^{-4}	No stoppage
Other/unspecified PDD codes	50,320	0.569	1.056 (1.034–1.079)	3.3×10^{-7}	Reverse: <i>more</i> likely to continue
<i>Cohort characteristics</i>					
Complete-case families					10,016,101
One-child families (stopped)					2,898,161 (28.9%)
Two+ child families (continued)					7,117,940 (71.1%)

Supplementary Table 5: **Within-family positive and negative control results.** Results are from the primary within-family COHORT+PERIOD model in the ALL subset. OR compares second-born to first-born; OR < 1 indicates first-born excess. Bonferroni threshold for within-family analyses: $0.05/541 = 9.24 \times 10^{-5}$.

Disease	Control	n_{disc}	WF OR (95% CI)	P	Result
Allergic rhinitis	Positive	1,160,954	0.911 (0.906–0.916)	2.0e-252	Bonf. consistent
Food allergy	Positive	75,258	0.901 (0.878–0.924)	1.3e-15	Bonf. consistent
Asthma	Positive	793,506	0.951 (0.944–0.958)	1.2e-43	Bonf. consistent
Acne	Positive	908,006	0.918 (0.912–0.924)	1.0e-130	Bonf. consistent
Substance abuse	Positive	452,072	1.141 (1.129–1.153)	9.9e-140	Bonf. consistent
Type 1 diabetes mellitus	Negative	59,599	0.960 (0.934–0.986)	0.002	Nominal only
Cystic fibrosis	Negative	5,236	1.127 (1.031–1.233)	0.009	Nominal only
Addison disease	Negative	9,191	1.038 (0.967–1.114)	0.303	Null
Ehlers–Danlos syndrome	Negative	4,145	0.964 (0.861–1.079)	0.525	Null
Turner syndrome	Negative	2,355	1.055 (0.883–1.261)	0.553	Null
Acute sinusitis	Negative	1,180,631	0.965 (0.960–0.970)	2.6e-42	Bonf. non-null
Acute upper respiratory infection	Negative	1,540,782	0.997 (0.993–1.001)	0.147	Null

Supplementary Table 6: **Stricter clinical matching sensitivity analysis.** Summary of the additional clinically enriched between-family rematch and its concordance with the primary between-family analysis.

Metric	Value
Strictly rematched individuals	1,059,520
Strictly rematched pairs	529,760
Diseases analyzable in both primary and strict cohorts	318
Pearson correlation of log-ORs vs. primary between-family analysis	0.933
Same direction vs. primary between-family analysis	91.2%
Nominally significant diseases in strict cohort ($P < 0.05$)	185
Nominal overlap with primary between-family analysis	175
Bonferroni-significant diseases in strict cohort using primary between-family threshold	96
Bonferroni overlap with primary between-family analysis using primary between-family threshold	92
Exact matching variables	sex, birth year, Census direction, urbanization tertile, age at start, sibling age gap, baseline Charlson index
Additional matching variables	days visible ± 50 , paternal age ± 1 year, maternal age ± 1 year, baseline MDBI ± 0.1

Supplementary Table 7: **Birth-order odds ratios stratified by sibling age gap for key diseases.** OR compares second-born to first-born within each gap stratum (between-family matched cohort). Gap categories: <4 years, 4–6 years, 7–10 years, >10 years.

Disease	Gap	OR	95% CI	<i>P</i>
Autism	<4	0.771	(0.743–0.799)	2.0e-44
	4-6	0.640	(0.603–0.679)	1.2e-49
	7-10	0.740	(0.639–0.856)	5.3e-05
	>10	0.974	(0.556–1.705)	0.926
ADHD	<4	0.927	(0.917–0.937)	2.1e-46
	4-6	0.945	(0.929–0.961)	8.4e-11
	7-10	0.961	(0.925–1.000)	0.049
	>10	1.029	(0.881–1.201)	0.718
Allergic Rhinitis	<4	0.895	(0.887–0.902)	2.7e-142
	4-6	0.930	(0.918–0.943)	6.4e-27
	7-10	1.032	(1.000–1.065)	0.047
	>10	1.223	(1.073–1.392)	0.002
Food Allergy	<4	0.823	(0.803–0.844)	2.2e-52
	4-6	0.735	(0.702–0.770)	2.5e-39
	7-10	0.760	(0.678–0.853)	3.2e-06
	>10	0.981	(0.607–1.586)	0.938
Substance Abuse	<4	1.203	(1.188–1.217)	2.1e-193
	4-6	1.185	(1.161–1.209)	2.0e-60
	7-10	1.088	(1.038–1.141)	4.5e-04
	>10	0.958	(0.770–1.193)	0.704
Anxiety/phobia	<4	0.892	(0.883–0.900)	9.0e-128
	4-6	0.887	(0.875–0.900)	6.1e-61
	7-10	0.869	(0.839–0.901)	1.1e-14
	>10	0.803	(0.683–0.945)	0.008
Depression	<4	0.961	(0.951–0.971)	3.1e-14
	4-6	0.972	(0.957–0.987)	3.6e-04
	7-10	0.945	(0.913–0.979)	0.002
	>10	0.802	(0.681–0.944)	0.008
Acne	<4	0.854	(0.848–0.860)	<1e-300
	4-6	0.881	(0.870–0.891)	5.4e-92
	7-10	0.992	(0.967–1.018)	0.544
	>10	0.936	(0.809–1.085)	0.381

Supplementary Table 8: **Complete between-family, within-family, and strict-match results for all 418 analyzed diseases.** OR compares second-born to first-born (OR < 1 = first-born excess). BF = between-family matched cohort; WF = within-family sibling comparison (COHORT+PERIOD model); Strict = clinically rematched cohort with Charlson/MDBI matching. Agree = directional concordance between BF and WF designs. Diseases sorted by between-family P -value. Bonferroni threshold: $P < 1.20 \times 10^{-4}$.

Disease		N	Prev.%	BF OR (95% CI)	BF P	WF OR (95% CI)	WF P	Strict OR (95% CI)	Strict P	Agree
Acne		670,949	20.75	0.866 (0.86–0.87)	<1e-300	0.918 (0.91–0.92)	1.4×10^{-130}	0.822 (0.81–0.83)	<1e-300	Yes
Other/unspecified codes	PDD	18,557	0.57	0.569 (0.55–0.59)	2.7×10^{-278}	0.616 (0.59–0.64)	2.1×10^{-137}	0.557 (0.53–0.59)	4.7×10^{-92}	Yes
Non-Specific Pain		918,807	28.41	1.099 (1.09–1.11)	5.8×10^{-234}	1.063 (1.06–1.07)	3.0×10^{-149}	1.102 (1.09–1.11)	3.8×10^{-82}	Yes
Substance Abuse		177,202	5.48	1.192 (1.18–1.20)	3.8×10^{-227}	1.141 (1.13–1.15)	9.9×10^{-140}	1.196 (1.17–1.22)	8.8×10^{-64}	Yes
Adjustment Disorder		247,268	7.65	0.855 (0.85–0.86)	3.0×10^{-181}	0.921 (0.91–0.93)	7.9×10^{-82}	0.843 (0.83–0.86)	3.3×10^{-67}	Yes
Non-Specific Joint Disorder		885,378	27.38	1.088 (1.08–1.09)	1.1×10^{-163}	1.064 (1.06–1.07)	2.7×10^{-118}	1.078 (1.07–1.09)	1.5×10^{-49}	Yes
Anxiety Phobic Disorder		392,739	12.14	0.889 (0.88–0.90)	1.4×10^{-151}	0.934 (0.93–0.94)	1.9×10^{-109}	0.910 (0.90–0.92)	2.3×10^{-30}	Yes
Tics Tourettes		16,549	0.51	0.693 (0.67–0.72)	4.0×10^{-116}	0.761 (0.73–0.79)	1.8×10^{-47}	0.704 (0.66–0.75)	1.9×10^{-27}	Yes
Migraine		166,609	5.15	1.128 (1.12–1.14)	2.3×10^{-107}	1.069 (1.06–1.08)	2.0×10^{-34}	1.134 (1.11–1.16)	3.9×10^{-32}	Yes
Abnormal Spine Curvature		132,248	4.09	0.866 (0.86–0.88)	2.0×10^{-105}	0.927 (0.91–0.94)	1.4×10^{-25}	0.857 (0.84–0.88)	2.4×10^{-44}	Yes
Menstrual Disorder		419,719	12.98	1.091 (1.08–1.10)	7.6×10^{-105}	0.995 (0.99–1.01)	3.5×10^{-1}	1.067 (1.05–1.08)	1.5×10^{-20}	No
Herpes Zoster		25,508	0.79	1.348 (1.31–1.39)	4.7×10^{-100}	1.305 (1.26–1.35)	3.1×10^{-60}	1.377 (1.31–1.44)	1.1×10^{-39}	Yes
Allergic Rhinitis		708,344	21.91	0.910 (0.90–0.92)	5.4×10^{-97}	0.911 (0.91–0.92)	2.0×10^{-252}	0.895 (0.88–0.91)	1.8×10^{-59}	Yes
Seborrheic Dermatitis		70,190	2.17	0.844 (0.83–0.86)	2.5×10^{-92}	0.879 (0.87–0.89)	5.3×10^{-58}	0.839 (0.81–0.86)	2.9×10^{-31}	Yes
OCD		27,656	0.85	0.773 (0.75–0.79)	1.2×10^{-90}	0.817 (0.79–0.84)	2.1×10^{-39}	0.771 (0.74–0.80)	3.5×10^{-35}	Yes
Gastritis Duodenitis		116,788	3.61	1.142 (1.13–1.16)	4.3×10^{-85}	1.047 (1.03–1.06)	1.5×10^{-11}	1.145 (1.12–1.17)	1.3×10^{-30}	Yes
Autism		19,985	0.62	0.737 (0.71–0.76)	1.2×10^{-81}	0.804 (0.79–0.82)	1.1×10^{-74}	0.799 (0.75–0.85)	1.1×10^{-13}	Yes
Pubertal Dysfunction		19,617	0.61	0.778 (0.76–0.80)	7.6×10^{-78}	0.822 (0.79–0.85)	3.5×10^{-23}	0.777 (0.73–0.82)	5.5×10^{-19}	Yes
Ocular Musculoskeletal Disorder		81,141	2.51	0.801 (0.78–0.82)	1.4×10^{-74}	0.936 (0.92–0.95)	4.2×10^{-16}	0.808 (0.78–0.84)	2.0×10^{-35}	Yes
UTI		365,998	11.32	1.107 (1.09–1.12)	5.6×10^{-73}	0.998 (0.99–1.01)	6.2×10^{-1}	1.126 (1.11–1.14)	1.8×10^{-48}	No
Non-Specific Gastrointestinal Disorder		282,923	8.75	1.096 (1.08–1.11)	5.8×10^{-73}	0.997 (0.99–1.01)	4.7×10^{-1}	1.108 (1.09–1.13)	6.9×10^{-35}	No
Food Allergy		36,440	1.13	0.797 (0.78–0.82)	9.7×10^{-73}	0.901 (0.88–0.92)	1.3×10^{-15}	0.823 (0.79–0.86)	4.7×10^{-21}	Yes
General Viral Infection		552,336	17.08	0.911 (0.90–0.92)	4.2×10^{-71}	0.976 (0.97–0.98)	5.2×10^{-13}	0.912 (0.90–0.92)	5.3×10^{-42}	Yes
Biliary Tract Disease		51,213	1.58	1.179 (1.16–1.20)	6.2×10^{-70}	0.997 (0.98–1.02)	7.7×10^{-1}	1.184 (1.14–1.22)	4.5×10^{-23}	No
Viral Warts HPV		451,397	13.96	0.937 (0.93–0.94)	2.3×10^{-61}	0.987 (0.98–0.99)	5.5×10^{-4}	0.933 (0.92–0.94)	2.9×10^{-29}	Yes
Neonatal Disease		20,936	0.65	0.760 (0.74–0.78)	6.9×10^{-61}	1.000 (0.97–1.03)	9.9×10^{-1}	0.777 (0.73–0.83)	2.8×10^{-15}	Yes
Pneumonia		94,306	2.92	0.882 (0.87–0.90)	5.6×10^{-58}	0.948 (0.93–0.96)	6.6×10^{-14}	0.901 (0.88–0.93)	3.4×10^{-14}	Yes
Non-Specific Cardiovascular Disease		119,129	3.68	1.119 (1.10–1.13)	2.1×10^{-57}	1.034 (1.02–1.05)	3.8×10^{-8}	1.146 (1.12–1.17)	1.3×10^{-30}	Yes

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Disease of the Female Reproductive Organs	388,223	12.01	1.077 (1.07–1.09)	1.5×10^{-54}	0.986 (0.98–0.99)	2.0×10^{-3}	1.099 (1.08–1.12)	1.1×10^{-28}	No
Conduct Disorder	53,266	1.65	0.872 (0.86–0.89)	7.7×10^{-54}	0.955 (0.94–0.97)	5.4×10^{-6}	0.846 (0.82–0.88)	1.9×10^{-21}	Yes
Chronic Tonsillitis Adenoiditis	149,983	4.64	1.087 (1.08–1.10)	8.3×10^{-52}	1.015 (1.00–1.03)	2.2×10^{-2}	1.119 (1.10–1.14)	1.6×10^{-27}	Yes
Benign Skin Neoplasm	322,442	9.97	0.935 (0.93–0.94)	1.2×10^{-51}	1.002 (0.99–1.01)	7.4×10^{-1}	0.934 (0.92–0.95)	3.2×10^{-23}	No
Non-Specific Congenital Musculoskeletal Anomaly	70,292	2.17	0.890 (0.88–0.90)	4.6×10^{-51}	0.935 (0.92–0.95)	6.3×10^{-13}	0.919 (0.89–0.95)	2.6×10^{-8}	Yes
Kidney Infection	28,769	0.89	1.213 (1.18–1.24)	9.6×10^{-50}	1.083 (1.04–1.12)	1.6×10^{-5}	1.229 (1.17–1.29)	5.4×10^{-19}	Yes
ADHD	312,601	9.67	0.934 (0.92–0.94)	1.6×10^{-44}	0.936 (0.93–0.94)	5.7×10^{-56}	0.917 (0.90–0.93)	2.0×10^{-24}	Yes
Developmental Delay	16,943	0.52	0.794 (0.77–0.82)	2.0×10^{-43}	0.944 (0.91–0.98)	1.5×10^{-3}	0.852 (0.80–0.90)	4.7×10^{-8}	Yes
External Ear Disorders	157,356	4.87	0.932 (0.92–0.94)	2.7×10^{-41}	0.916 (0.91–0.93)	1.4×10^{-51}	0.923 (0.91–0.94)	9.7×10^{-17}	Yes
Urinary Calculus	36,867	1.14	1.160 (1.14–1.19)	6.5×10^{-41}	1.001 (0.98–1.02)	9.0×10^{-1}	1.163 (1.12–1.21)	3.3×10^{-14}	Yes
Acquired Visual Disturbances	254,666	7.88	0.921 (0.91–0.93)	8.2×10^{-37}	0.957 (0.95–0.97)	6.8×10^{-24}	0.939 (0.92–0.96)	5.5×10^{-12}	Yes
IBS	52,751	1.63	1.117 (1.10–1.14)	9.1×10^{-37}	1.054 (1.03–1.08)	1.5×10^{-6}	1.147 (1.11–1.18)	6.8×10^{-17}	Yes
General Spondylosis Spine Disorder	141,928	4.39	1.081 (1.07–1.09)	1.5×10^{-36}	1.061 (1.05–1.07)	1.1×10^{-22}	1.109 (1.09–1.13)	6.9×10^{-24}	Yes
Esophageal Disease	188,085	5.82	1.069 (1.06–1.08)	3.5×10^{-36}	1.021 (1.01–1.03)	8.8×10^{-6}	1.115 (1.09–1.14)	6.0×10^{-27}	Yes
Epidermolysis Bullosa	51,050	1.58	0.887 (0.87–0.90)	2.3×10^{-35}	0.899 (0.88–0.92)	6.1×10^{-20}	0.864 (0.84–0.89)	2.9×10^{-18}	Yes
Non-Specific Urinary Disorder	129,984	4.02	1.081 (1.07–1.09)	3.0×10^{-35}	1.019 (1.01–1.03)	3.2×10^{-3}	1.101 (1.08–1.12)	6.1×10^{-20}	Yes
Cervical Cancer	44,417	1.37	1.132 (1.11–1.15)	5.6×10^{-35}	1.046 (1.01–1.08)	1.3×10^{-2}	1.233 (1.19–1.28)	2.1×10^{-31}	Yes
Dyschromia	69,275	2.14	0.907 (0.89–0.92)	1.2×10^{-34}	0.972 (0.96–0.99)	1.3×10^{-3}	0.925 (0.90–0.95)	8.0×10^{-9}	Yes
Osteomyelitis	48,156	1.49	1.119 (1.10–1.14)	5.3×10^{-34}	1.029 (1.01–1.05)	7.0×10^{-3}	1.119 (1.08–1.16)	8.7×10^{-9}	Yes
General Ear Disorder	187,866	5.81	0.931 (0.92–0.94)	1.1×10^{-33}	0.966 (0.95–0.98)	4.9×10^{-9}	0.948 (0.93–0.97)	4.9×10^{-8}	Yes
IBS Crohns Disease	60,018	1.86	1.106 (1.09–1.12)	5.3×10^{-33}	1.032 (1.01–1.05)	5.4×10^{-4}	1.143 (1.11–1.18)	2.4×10^{-18}	Yes
Unspecified Encephalopathy	29,429	0.91	0.848 (0.83–0.87)	5.1×10^{-32}	0.948 (0.92–0.97)	4.4×10^{-5}	0.841 (0.80–0.89)	4.9×10^{-11}	Yes
Eye Inflammation	280,668	8.68	0.940 (0.93–0.95)	2.8×10^{-30}	0.962 (0.95–0.97)	7.2×10^{-17}	0.939 (0.93–0.95)	3.9×10^{-17}	Yes
Breast Disorder	99,863	3.09	1.080 (1.07–1.09)	3.6×10^{-30}	1.022 (1.01–1.04)	4.7×10^{-3}	1.093 (1.07–1.12)	3.6×10^{-12}	Yes
Synovium Tendon Bursa Disorder	132,434	4.09	1.072 (1.06–1.08)	3.6×10^{-30}	1.080 (1.07–1.10)	2.0×10^{-26}	1.086 (1.06–1.11)	2.4×10^{-15}	Yes
Congenital Anomaly of Skull Neck	17,007	0.53	0.826 (0.80–0.85)	6.8×10^{-30}	0.996 (0.96–1.03)	8.4×10^{-1}	0.876 (0.82–0.94)	7.1×10^{-5}	Yes
Cystitis Urethritis	70,384	2.18	1.103 (1.08–1.12)	4.1×10^{-29}	1.030 (1.01–1.05)	1.3×10^{-3}	1.132 (1.10–1.17)	3.2×10^{-15}	Yes
Alopecia	40,924	1.27	0.898 (0.88–0.92)	3.9×10^{-27}	0.902 (0.88–0.92)	4.9×10^{-21}	0.934 (0.90–0.97)	6.6×10^{-4}	Yes
Unspecified Recurrent Headaches	59,110	1.83	1.094 (1.08–1.11)	8.2×10^{-27}	1.077 (1.06–1.10)	1.3×10^{-17}	1.135 (1.10–1.17)	1.3×10^{-14}	Yes

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Electrolyte Acid-Base Balance Disorder	46,384	1.43	1.131 (1.11–1.16)	1.6×10^{-26}	1.050 (1.03–1.07)	8.1×10^{-8}	1.173 (1.13–1.21)	1.1×10^{-18}	Yes
Chronic Upper Respiratory Infection	121,818	3.77	0.934 (0.92–0.95)	8.5×10^{-26}	0.927 (0.91–0.94)	3.4×10^{-29}	0.934 (0.91–0.96)	3.1×10^{-8}	Yes
Pleuritis	19,761	0.61	1.161 (1.13–1.19)	2.7×10^{-25}	1.017 (0.98–1.05)	3.4×10^{-1}	1.189 (1.13–1.26)	6.1×10^{-10}	Yes
Hirsutism	16,443	0.51	0.864 (0.84–0.89)	8.4×10^{-24}	0.809 (0.77–0.85)	1.0×10^{-19}	0.835 (0.79–0.88)	2.2×10^{-10}	Yes
Unspecified White Blood Cell Disease	52,033	1.61	1.102 (1.08–1.12)	9.1×10^{-24}	1.032 (1.01–1.05)	3.3×10^{-4}	1.150 (1.11–1.19)	2.5×10^{-13}	Yes
Muscle Ligament Disorder	423,646	13.10	1.041 (1.03–1.05)	2.5×10^{-22}	1.043 (1.04–1.05)	4.1×10^{-30}	1.046 (1.03–1.06)	7.5×10^{-12}	Yes
Eating Disorder	22,774	0.70	0.875 (0.85–0.90)	1.6×10^{-21}	0.933 (0.90–0.96)	2.5×10^{-5}	0.874 (0.83–0.92)	1.8×10^{-8}	Yes
Unspecified Behavioral Development Disorder	28,378	0.88	0.893 (0.87–0.91)	1.7×10^{-21}	0.941 (0.92–0.96)	1.8×10^{-7}	0.899 (0.85–0.95)	2.1×10^{-4}	Yes
Male Genital Congenital Anomaly	11,368	0.35	0.826 (0.79–0.86)	1.0×10^{-20}	0.948 (0.89–1.01)	1.1×10^{-1}	0.841 (0.77–0.92)	1.0×10^{-4}	Yes
STI	28,183	0.87	1.160 (1.12–1.20)	2.1×10^{-20}	1.066 (1.04–1.10)	4.9×10^{-6}	1.186 (1.13–1.24)	3.8×10^{-12}	Yes
Non-Specific Eye Disorders	49,259	1.52	0.915 (0.90–0.93)	9.3×10^{-20}	0.915 (0.90–0.94)	4.7×10^{-16}	0.925 (0.89–0.96)	8.2×10^{-6}	Yes
Depression	293,022	9.06	0.963 (0.96–0.97)	2.5×10^{-19}	0.955 (0.95–0.96)	2.3×10^{-35}	0.963 (0.95–0.98)	5.8×10^{-6}	Yes
Appendiceal Disease	35,988	1.11	1.109 (1.08–1.13)	4.7×10^{-19}	1.058 (1.03–1.09)	3.7×10^{-5}	1.105 (1.06–1.15)	1.8×10^{-6}	Yes
Streptococcal Infection	26,427	0.82	0.881 (0.86–0.91)	4.8×10^{-19}	0.931 (0.90–0.96)	3.6×10^{-6}	0.893 (0.85–0.94)	8.0×10^{-6}	Yes
Non-Specific Immune-Related Skin Disorder	82,462	2.55	0.930 (0.91–0.94)	1.0×10^{-18}	0.965 (0.95–0.98)	4.2×10^{-7}	0.948 (0.92–0.98)	9.7×10^{-4}	Yes
Herpes Simplex	63,347	1.96	1.072 (1.06–1.09)	1.3×10^{-18}	1.014 (1.00–1.03)	1.0×10^{-1}	1.103 (1.07–1.13)	4.0×10^{-12}	Yes
Infestation	37,289	1.15	1.100 (1.08–1.12)	1.2×10^{-17}	1.030 (1.01–1.05)	1.8×10^{-2}	1.113 (1.07–1.15)	2.0×10^{-8}	Yes
Gestational Pregnancy Related Disorder	95,435	4.43	1.079 (1.06–1.10)	1.3×10^{-17}	1.034 (1.02–1.05)	3.1×10^{-8}	1.180 (1.15–1.21)	3.6×10^{-36}	Yes
Osteoarthritis	28,432	0.88	1.112 (1.08–1.14)	5.4×10^{-17}	1.038 (1.01–1.07)	6.7×10^{-3}	1.114 (1.07–1.16)	1.7×10^{-6}	Yes
Spinal Stenosis	9,375	0.29	1.190 (1.14–1.24)	1.3×10^{-16}	1.091 (1.05–1.14)	6.7×10^{-5}	1.231 (1.15–1.32)	2.9×10^{-9}	Yes
Asthma	399,678	12.36	0.969 (0.96–0.98)	3.0×10^{-16}	0.951 (0.94–0.96)	1.2×10^{-43}	0.970 (0.96–0.98)	8.0×10^{-5}	Yes
Acquired Retinal Defects	21,480	0.66	0.885 (0.86–0.91)	3.6×10^{-16}	0.904 (0.88–0.93)	7.0×10^{-11}	0.902 (0.86–0.95)	8.6×10^{-5}	Yes
Non-Specific Dental Disorder	26,871	0.83	1.112 (1.08–1.14)	5.0×10^{-16}	1.003 (0.98–1.03)	8.1×10^{-1}	1.135 (1.08–1.20)	2.4×10^{-6}	Yes
Growth Hormone Deficiency	6,941	0.21	0.817 (0.78–0.86)	5.9×10^{-16}	1.031 (0.98–1.09)	2.7×10^{-1}	0.841 (0.77–0.92)	2.1×10^{-4}	No
Obesity	112,983	3.49	1.052 (1.04–1.06)	1.2×10^{-15}	0.938 (0.93–0.95)	6.4×10^{-34}	1.062 (1.04–1.09)	1.4×10^{-6}	No
Impulse Control Disorder	12,622	0.39	0.860 (0.83–0.89)	1.5×10^{-15}	0.904 (0.87–0.94)	2.4×10^{-7}	0.812 (0.75–0.88)	1.3×10^{-7}	Yes
Rosacea	26,317	0.81	0.901 (0.88–0.92)	5.7×10^{-15}	0.945 (0.92–0.97)	2.5×10^{-4}	0.913 (0.87–0.96)	1.9×10^{-4}	Yes
Acute Bronchitis	547,280	16.92	1.033 (1.02–1.04)	7.0×10^{-15}	0.975 (0.97–0.98)	4.4×10^{-15}	1.023 (1.01–1.04)	5.9×10^{-4}	No
Personality Disorder	26,997	0.83	0.904 (0.88–0.93)	9.7×10^{-15}	0.913 (0.89–0.93)	2.1×10^{-16}	0.925 (0.88–0.97)	2.2×10^{-3}	Yes
Bipolar Disorder	58,292	1.80	0.926 (0.91–0.94)	3.6×10^{-14}	0.891 (0.88–0.91)	4.9×10^{-42}	0.916 (0.88–0.95)	2.0×10^{-6}	Yes
Varicose Veins	20,327	0.63	0.899 (0.87–0.92)	1.3×10^{-13}	0.979 (0.94–1.02)	2.8×10^{-1}	0.913 (0.87–0.96)	5.9×10^{-4}	Yes
Ear Infection	745,900	23.07	0.972 (0.97–0.98)	1.6×10^{-13}	0.983 (0.98–0.99)	2.1×10^{-8}	0.975 (0.96–0.99)	1.5×10^{-6}	Yes

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Lymphatic Disorder	68,600	2.12	1.074 (1.05–1.09)	5.4×10^{-13}	1.034 (1.02–1.05)	4.1×10^{-4}	1.066 (1.03–1.10)	1.3×10^{-4}	Yes
Protozoan Infection	6,390	0.20	1.217 (1.15–1.28)	7.3×10^{-13}	1.042 (0.98–1.10)	1.5×10^{-1}	1.167 (1.05–1.30)	6.0×10^{-3}	Yes
Non-Specific Arthritis	26,454	0.82	1.100 (1.07–1.13)	7.9×10^{-13}	1.062 (1.03–1.10)	1.1×10^{-4}	1.107 (1.06–1.16)	2.3×10^{-5}	Yes
Non-Specific Acquired Musculoskeletal Abnormality	320,910	9.92	1.032 (1.02–1.04)	3.7×10^{-12}	1.035 (1.03–1.04)	3.3×10^{-15}	1.032 (1.02–1.05)	1.5×10^{-5}	Yes
Non-Rheumatic Heart Disease	31,709	0.98	1.091 (1.06–1.12)	4.4×10^{-12}	1.055 (1.03–1.08)	1.4×10^{-4}	1.113 (1.07–1.16)	9.1×10^{-7}	Yes
Pure Hyperglyceridemia	10,676	0.33	0.874 (0.84–0.91)	5.4×10^{-12}	0.887 (0.86–0.92)	6.7×10^{-13}	0.907 (0.84–0.98)	1.2×10^{-2}	Yes
Speech Language Disorder	20,784	0.64	0.892 (0.86–0.92)	8.7×10^{-12}	1.052 (1.02–1.08)	7.1×10^{-4}	0.972 (0.92–1.03)	3.7×10^{-1}	No
Non-Specific Skin Disorder	337,787	10.45	0.965 (0.96–0.98)	9.4×10^{-12}	0.964 (0.96–0.97)	3.8×10^{-20}	0.973 (0.96–0.99)	7.6×10^{-4}	Yes
Malnutrition	12,347	0.38	0.880 (0.85–0.91)	6.2×10^{-11}	0.985 (0.95–1.02)	4.2×10^{-1}	0.887 (0.83–0.95)	2.7×10^{-4}	Yes
Gastrointestinal Ulcer	14,213	0.44	1.120 (1.08–1.16)	1.3×10^{-10}	1.032 (1.00–1.07)	7.7×10^{-2}	1.102 (1.03–1.18)	3.9×10^{-3}	Yes
Non-Melanoma Skin Cancer	176,706	5.46	0.964 (0.95–0.97)	4.8×10^{-10}	1.011 (1.00–1.02)	5.2×10^{-2}	0.973 (0.95–0.99)	6.6×10^{-3}	No
Overweight	40,971	1.27	0.938 (0.92–0.96)	5.4×10^{-10}	0.942 (0.93–0.96)	3.7×10^{-12}	0.973 (0.94–1.01)	1.5×10^{-1}	Yes
Non-Specific Sugar Metabolism Disorder	24,877	0.77	1.084 (1.06–1.11)	5.4×10^{-10}	0.979 (0.95–1.01)	1.6×10^{-1}	1.075 (1.02–1.13)	2.9×10^{-3}	No
Mood Disorder	59,531	1.84	0.942 (0.92–0.96)	9.2×10^{-10}	0.949 (0.93–0.97)	1.2×10^{-8}	0.933 (0.90–0.97)	1.1×10^{-4}	Yes
Tympanic Membrane Disorders	29,780	0.92	1.080 (1.05–1.11)	1.1×10^{-9}	1.103 (1.07–1.14)	3.7×10^{-10}	1.137 (1.09–1.19)	4.8×10^{-8}	Yes
Hereditary Blepharophimosis	906	0.03	0.689 (0.61–0.78)	1.3×10^{-9}	1.078 (0.95–1.22)	2.3×10^{-1}	–	–	No
General Osteochondropathy	75,884	2.35	1.044 (1.03–1.06)	1.8×10^{-9}	1.084 (1.06–1.11)	1.5×10^{-13}	1.043 (1.01–1.07)	3.2×10^{-3}	Yes
Learning Disorder	12,406	0.38	0.896 (0.86–0.93)	3.8×10^{-9}	0.973 (0.93–1.01)	1.8×10^{-1}	0.903 (0.84–0.97)	8.4×10^{-3}	Yes
Vitreous Body Disorder	18,563	0.57	0.916 (0.89–0.94)	4.3×10^{-9}	1.002 (0.96–1.04)	9.3×10^{-1}	0.944 (0.90–0.99)	1.7×10^{-2}	No
Secondary Arthropathy	12,306	0.38	1.107 (1.07–1.15)	4.4×10^{-9}	1.090 (1.05–1.13)	6.0×10^{-6}	1.114 (1.04–1.19)	1.3×10^{-3}	Yes
Cardiac Dysrhythmia	90,366	2.79	1.045 (1.03–1.06)	5.9×10^{-9}	1.031 (1.02–1.05)	3.4×10^{-5}	1.043 (1.02–1.07)	2.3×10^{-3}	Yes
Esophagitis	26,942	0.83	1.076 (1.05–1.10)	6.4×10^{-9}	1.043 (1.01–1.07)	4.9×10^{-3}	1.073 (1.03–1.12)	1.9×10^{-3}	Yes
Hemangioma Lymphangioma	26,033	0.81	0.927 (0.90–0.95)	8.5×10^{-9}	0.978 (0.95–1.00)	9.1×10^{-2}	0.934 (0.89–0.98)	8.2×10^{-3}	Yes
Non-Specific Congenital Eye Anomaly	6,887	0.21	0.827 (0.77–0.88)	8.8×10^{-9}	0.919 (0.87–0.97)	1.2×10^{-3}	0.828 (0.75–0.92)	3.9×10^{-4}	Yes
Acute Renal Failure	6,461	0.20	1.158 (1.10–1.22)	2.3×10^{-8}	1.045 (1.00–1.09)	5.2×10^{-2}	1.189 (1.06–1.33)	2.5×10^{-3}	Yes
Neural Tube Defect	4,330	0.13	1.176 (1.11–1.25)	3.9×10^{-8}	1.165 (1.09–1.25)	2.3×10^{-5}	1.220 (1.09–1.36)	3.4×10^{-4}	Yes
General Hypertension	79,802	2.47	1.048 (1.03–1.07)	4.2×10^{-8}	0.951 (0.94–0.96)	5.5×10^{-14}	1.061 (1.03–1.09)	1.4×10^{-5}	No
Dwarfism of Unknown Etiology	1,518	0.05	0.757 (0.68–0.84)	6.4×10^{-8}	0.863 (0.77–0.97)	1.6×10^{-2}	–	–	Yes
Gastrointestinal Infection	120,742	3.73	1.043 (1.03–1.06)	7.2×10^{-8}	0.975 (0.96–0.99)	5.0×10^{-4}	1.058 (1.03–1.08)	5.1×10^{-6}	No
Skin Infection	120,398	3.72	0.965 (0.95–0.98)	7.7×10^{-8}	0.983 (0.97–1.00)	7.8×10^{-3}	0.983 (0.96–1.00)	1.2×10^{-1}	Yes
Non-Specific Gingival Periodontal Disorder	18,956	0.59	1.097 (1.06–1.13)	9.2×10^{-8}	0.990 (0.96–1.02)	5.2×10^{-1}	1.125 (1.05–1.20)	4.2×10^{-4}	No
Lacrimal System Disorder	6,481	0.20	0.863 (0.82–0.91)	1.5×10^{-7}	0.973 (0.91–1.04)	4.0×10^{-1}	0.901 (0.82–0.99)	2.9×10^{-2}	Yes

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Pancreatic Disease	6,479	0.20	1.146 (1.09–1.21)	1.8×10^{-7}	1.069 (1.01–1.13)	2.2×10^{-2}	1.135 (1.04–1.24)	6.2×10^{-3}	Yes
Non-Specific Pulmonary Disorder	113,661	3.52	0.955 (0.94–0.97)	1.8×10^{-7}	0.963 (0.95–0.98)	1.7×10^{-8}	0.969 (0.94–1.00)	4.8×10^{-2}	Yes
Benign Eye Neoplasm	7,493	0.23	0.878 (0.84–0.92)	2.1×10^{-7}	0.934 (0.88–0.99)	2.5×10^{-2}	0.907 (0.84–0.98)	1.9×10^{-2}	Yes
Arthropod-Borne Diseases	14,644	0.45	0.902 (0.87–0.94)	8.1×10^{-7}	1.019 (0.98–1.06)	3.3×10^{-1}	0.917 (0.86–0.98)	8.7×10^{-3}	No
Cellulitis	341,402	10.56	1.021 (1.01–1.03)	9.6×10^{-7}	1.009 (1.00–1.02)	4.8×10^{-2}	1.016 (1.00–1.03)	1.5×10^{-2}	Yes
Unspecified Lipid Metabolism Disorder	4,521	0.14	0.862 (0.81–0.91)	1.1×10^{-6}	0.880 (0.83–0.94)	6.8×10^{-5}	0.820 (0.74–0.91)	1.1×10^{-4}	Yes
Larynx Vocal Chord Disorders	13,319	0.41	0.920 (0.89–0.95)	1.9×10^{-6}	1.031 (0.99–1.07)	1.2×10^{-1}	0.929 (0.87–1.00)	3.8×10^{-2}	No
Peripheral Nerve Disorder	28,848	0.89	1.061 (1.04–1.09)	2.0×10^{-6}	1.080 (1.05–1.11)	9.0×10^{-7}	1.095 (1.05–1.15)	1.2×10^{-4}	Yes
Hair Related Disease	119,125	3.68	0.970 (0.96–0.98)	2.4×10^{-6}	0.991 (0.98–1.00)	1.8×10^{-1}	0.973 (0.95–1.00)	2.0×10^{-2}	Yes
Pernicious or B12 Deficiency Anemia	10,231	0.32	1.113 (1.06–1.16)	4.2×10^{-6}	1.004 (0.96–1.05)	8.4×10^{-1}	1.182 (1.10–1.27)	1.5×10^{-5}	Yes
Brain Damage	35,606	1.10	1.055 (1.03–1.08)	4.9×10^{-6}	1.070 (1.05–1.10)	3.9×10^{-9}	1.107 (1.06–1.16)	5.4×10^{-6}	Yes
Keratosiis	21,419	0.66	0.941 (0.92–0.97)	5.1×10^{-6}	0.954 (0.93–0.98)	1.4×10^{-4}	0.969 (0.92–1.02)	2.4×10^{-1}	Yes
Sebaceous Gland Disorder	16,072	0.50	0.925 (0.89–0.96)	9.2×10^{-6}	0.984 (0.96–1.01)	2.9×10^{-1}	0.959 (0.90–1.02)	2.2×10^{-1}	Yes
Rheumatic Heart Disease	8,004	0.25	1.111 (1.06–1.16)	9.3×10^{-6}	1.050 (1.00–1.11)	7.4×10^{-2}	1.128 (1.04–1.22)	3.3×10^{-3}	Yes
Fungal Infection	303,524	9.39	1.019 (1.01–1.03)	1.2×10^{-5}	0.950 (0.94–0.96)	1.2×10^{-35}	1.019 (1.01–1.03)	7.4×10^{-3}	No
Lichen	3,010	0.09	0.861 (0.80–0.92)	1.5×10^{-5}	0.975 (0.90–1.06)	5.5×10^{-1}	0.849 (0.73–0.98)	2.8×10^{-2}	Yes
Non-Specific Liver Disease	14,098	0.44	1.070 (1.04–1.10)	1.9×10^{-5}	1.029 (0.99–1.07)	9.9×10^{-2}	1.067 (1.01–1.13)	3.0×10^{-2}	Yes
Non-Specific Soft Tissue Disorder	30,065	0.93	1.056 (1.03–1.08)	2.1×10^{-5}	1.072 (1.05–1.09)	7.2×10^{-12}	1.107 (1.05–1.17)	1.3×10^{-4}	Yes
Non-Specified Cardiac Ischemia	3,365	0.10	1.167 (1.09–1.25)	2.1×10^{-5}	1.024 (0.96–1.09)	4.6×10^{-1}	1.180 (1.03–1.36)	2.0×10^{-2}	Yes
Escherichia Coli Infection	4,033	0.12	1.149 (1.08–1.22)	2.1×10^{-5}	1.057 (0.97–1.15)	2.2×10^{-1}	1.218 (1.08–1.38)	1.6×10^{-3}	Yes
Benign Digestive Neoplasm	6,792	0.21	1.099 (1.05–1.15)	3.1×10^{-5}	1.015 (0.96–1.07)	6.0×10^{-1}	1.135 (1.03–1.25)	1.1×10^{-2}	Yes
Gout Related Crystal Arthropathies	11,525	0.36	1.095 (1.05–1.14)	4.5×10^{-5}	0.998 (0.97–1.03)	8.7×10^{-1}	1.094 (1.00–1.19)	4.4×10^{-2}	No
Tuberculosis	3,842	0.12	0.877 (0.82–0.93)	4.6×10^{-5}	0.974 (0.90–1.06)	5.3×10^{-1}	0.956 (0.84–1.08)	4.8×10^{-1}	Yes
Hearing Loss	96,126	2.97	0.973 (0.96–0.99)	5.9×10^{-5}	1.015 (1.00–1.03)	4.1×10^{-2}	1.010 (0.99–1.04)	4.3×10^{-1}	No
Marfan Syndrome	2,524	0.08	0.851 (0.79–0.92)	6.9×10^{-5}	0.906 (0.82–1.00)	6.2×10^{-2}	0.823 (0.71–0.95)	7.0×10^{-3}	Yes
Refraction Accomodation Disorders	16,509	0.51	0.934 (0.90–0.97)	7.0×10^{-5}	0.930 (0.90–0.96)	3.9×10^{-5}	0.926 (0.88–0.98)	3.9×10^{-3}	Yes
Sleep Disorder	32,061	0.99	0.952 (0.93–0.98)	9.7×10^{-5}	0.952 (0.93–0.97)	3.2×10^{-6}	0.967 (0.92–1.01)	1.6×10^{-1}	Yes
Non-Specific Neurologic Congenital Anomaly	8,101	0.25	0.909 (0.87–0.95)	1.2×10^{-4}	1.025 (0.98–1.08)	3.3×10^{-1}	0.923 (0.84–1.02)	9.9×10^{-2}	No
Non-Specific Metabolic Disorder	40,274	1.25	1.042 (1.02–1.06)	1.2×10^{-4}	1.030 (1.01–1.05)	1.5×10^{-2}	1.049 (1.01–1.09)	9.2×10^{-3}	Yes

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Non-Specific Osteopathy	52,219	1.61	1.036 (1.02–1.06)	1.3×10^{-4}	1.059 (1.03–1.08)	1.0×10^{-6}	1.044 (1.01–1.08)	9.0×10^{-3}	Yes
Vitamin Deficiency	95,193	2.94	0.966 (0.95–0.98)	1.3×10^{-4}	0.969 (0.96–0.98)	2.2×10^{-9}	1.026 (1.00–1.06)	8.4×10^{-2}	Yes
Adrenogenital Disorder	1,139	0.04	0.797 (0.71–0.90)	1.4×10^{-4}	0.857 (0.75–0.98)	2.6×10^{-2}	–	–	Yes
Fasciitis	53,196	1.65	0.959 (0.94–0.98)	1.8×10^{-4}	1.014 (0.99–1.03)	1.5×10^{-1}	0.976 (0.94–1.01)	2.0×10^{-1}	No
Unspecified Endocrine Disorder	12,902	0.40	0.932 (0.90–0.97)	2.0×10^{-4}	0.952 (0.92–0.99)	6.7×10^{-3}	0.963 (0.90–1.03)	2.8×10^{-1}	Yes
Optic Neuritis Neuropathy	8,937	0.28	0.909 (0.86–0.96)	2.6×10^{-4}	0.967 (0.92–1.01)	1.7×10^{-1}	0.980 (0.90–1.06)	6.2×10^{-1}	Yes
Benign Uterine Neoplasm	6,380	0.20	1.092 (1.04–1.15)	2.9×10^{-4}	1.016 (0.98–1.06)	4.3×10^{-1}	1.154 (1.05–1.27)	2.8×10^{-3}	Yes
Jaw Disease	52,448	1.62	1.033 (1.01–1.05)	3.2×10^{-4}	1.034 (1.01–1.06)	4.1×10^{-3}	1.050 (1.02–1.08)	1.7×10^{-3}	Yes
Female Genital Congenital Anomaly	7,104	0.22	0.915 (0.87–0.96)	3.7×10^{-4}	0.947 (0.88–1.02)	1.6×10^{-1}	0.929 (0.85–1.02)	1.2×10^{-1}	Yes
Unspecified Autoimmune Disease	4,470	0.14	0.900 (0.85–0.95)	4.1×10^{-4}	0.982 (0.93–1.04)	5.5×10^{-1}	0.961 (0.85–1.09)	5.5×10^{-1}	Yes
Sleep Apnea	32,923	1.02	0.962 (0.94–0.98)	4.7×10^{-4}	0.954 (0.94–0.97)	3.6×10^{-8}	1.005 (0.96–1.05)	8.3×10^{-1}	Yes
Oro-Facial Congenital Anomaly	178,855	5.53	0.966 (0.95–0.98)	4.7×10^{-4}	0.979 (0.97–0.99)	1.0×10^{-3}	0.937 (0.92–0.96)	1.7×10^{-8}	Yes
Chronic Liver Disease	11,537	0.36	1.077 (1.03–1.12)	4.9×10^{-4}	0.995 (0.96–1.03)	8.1×10^{-1}	1.097 (1.01–1.19)	2.0×10^{-2}	No
HIV	1,105	0.03	1.239 (1.10–1.40)	5.1×10^{-4}	1.073 (0.97–1.18)	1.5×10^{-1}	–	–	Yes
Other Corticoadrenal Disorder	3,663	0.11	0.896 (0.84–0.95)	5.2×10^{-4}	0.856 (0.80–0.91)	8.4×10^{-7}	0.861 (0.76–0.98)	2.1×10^{-2}	Yes
Carbuncle Furuncle	30,398	0.94	1.043 (1.02–1.07)	5.4×10^{-4}	0.989 (0.96–1.02)	4.7×10^{-1}	1.042 (1.00–1.09)	6.2×10^{-2}	No
Kawasaki Disease	1,155	0.04	0.817 (0.73–0.92)	6.0×10^{-4}	0.919 (0.80–1.06)	2.4×10^{-1}	–	–	Yes
Pituitary Disorder	9,266	0.29	0.932 (0.89–0.97)	6.6×10^{-4}	0.985 (0.95–1.03)	4.5×10^{-1}	0.983 (0.90–1.07)	7.0×10^{-1}	Yes
Corns Callosities	4,921	0.15	0.907 (0.86–0.96)	7.1×10^{-4}	0.964 (0.91–1.02)	2.2×10^{-1}	0.952 (0.86–1.05)	3.2×10^{-1}	Yes
Benign Intrathoracic Neoplasm	1,728	0.05	1.186 (1.07–1.31)	7.6×10^{-4}	1.016 (0.91–1.13)	7.8×10^{-1}	–	–	Yes
Staphylococcus Aureus Infection	18,371	0.57	1.050 (1.02–1.08)	9.8×10^{-4}	0.997 (0.96–1.03)	8.5×10^{-1}	1.054 (1.00–1.11)	5.9×10^{-2}	No
Cranial Nerve Disorder	27,641	0.85	0.958 (0.93–0.98)	1.3×10^{-3}	1.007 (0.98–1.03)	6.2×10^{-1}	0.992 (0.95–1.04)	7.3×10^{-1}	No
Disorder of the Vestibular System	12,804	0.40	1.057 (1.02–1.09)	1.7×10^{-3}	1.060 (1.01–1.11)	8.4×10^{-3}	1.103 (1.03–1.18)	7.1×10^{-3}	Yes
Photodermatitis	37,988	1.18	0.960 (0.94–0.99)	1.9×10^{-3}	0.987 (0.97–1.01)	2.1×10^{-1}	0.982 (0.94–1.02)	4.1×10^{-1}	Yes
Hypotension	22,079	0.68	1.047 (1.02–1.08)	1.9×10^{-3}	1.044 (1.01–1.07)	3.5×10^{-3}	1.078 (1.02–1.14)	1.0×10^{-2}	Yes
Peritonitis Retroperitoneal Infection	3,670	0.11	1.109 (1.04–1.19)	2.5×10^{-3}	1.056 (0.99–1.13)	1.2×10^{-1}	1.119 (0.99–1.27)	7.5×10^{-2}	Yes
Choroidal Disorders	1,788	0.06	0.853 (0.77–0.95)	2.5×10^{-3}	0.931 (0.84–1.03)	1.5×10^{-1}	0.907 (0.79–1.04)	1.7×10^{-1}	Yes
Spleen Disease	1,615	0.05	1.172 (1.06–1.30)	2.6×10^{-3}	1.142 (1.02–1.28)	2.1×10^{-2}	–	–	Yes
Emphysema COPD	21,960	0.68	1.052 (1.02–1.09)	2.7×10^{-3}	0.998 (0.97–1.03)	9.1×10^{-1}	1.030 (0.97–1.09)	3.2×10^{-1}	No
Type II Diabetes Mellitus	42,756	1.32	1.048 (1.02–1.08)	2.7×10^{-3}	0.975 (0.96–0.99)	8.3×10^{-4}	1.110 (1.05–1.17)	1.1×10^{-4}	No

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Acquired Hypothyroidism	79,597	2.46	1.025 (1.01–1.04)	2.9×10^{-3}	0.955 (0.94–0.97)	1.2×10^{-11}	1.064 (1.04–1.09)	3.6×10^{-6}	No
Pure Hypercholesterolemia	3,659	0.11	0.910 (0.85–0.97)	3.2×10^{-3}	0.975 (0.92–1.04)	4.1×10^{-1}	0.734 (0.62–0.87)	2.3×10^{-4}	Yes
Inflammatory Spondylopathies	6,474	0.20	1.087 (1.03–1.15)	3.4×10^{-3}	1.034 (0.98–1.09)	2.4×10^{-1}	1.158 (1.06–1.27)	1.6×10^{-3}	Yes
Acquired Coagulation Defect	7,228	0.22	1.074 (1.02–1.13)	3.6×10^{-3}	1.048 (1.00–1.10)	7.5×10^{-2}	1.129 (1.03–1.24)	1.0×10^{-2}	Yes
Benign Prostatic Hyperplasia	1,962	0.06	0.871 (0.79–0.96)	3.7×10^{-3}	0.945 (0.90–0.99)	3.0×10^{-2}	–	–	Yes
Deep Vein Thrombosis	5,748	0.18	1.080 (1.03–1.14)	3.9×10^{-3}	0.967 (0.91–1.03)	2.7×10^{-1}	1.123 (1.01–1.25)	2.8×10^{-2}	No
Unspecified Neuropsychiatric Disorder	18,852	0.58	0.953 (0.92–0.98)	3.9×10^{-3}	0.999 (0.97–1.03)	9.4×10^{-1}	0.998 (0.94–1.06)	9.4×10^{-1}	Yes
Nerve Root Plexus Disorders	11,076	0.34	1.061 (1.02–1.10)	4.3×10^{-3}	1.032 (0.99–1.08)	1.5×10^{-1}	1.074 (1.01–1.14)	1.5×10^{-2}	Yes
Eyelid Disorders	10,213	0.32	0.939 (0.90–0.98)	4.4×10^{-3}	0.961 (0.92–1.00)	7.3×10^{-2}	0.976 (0.90–1.05)	5.4×10^{-1}	Yes
Non-Specific Genitourinary Congenital Anomaly	15,452	0.48	1.049 (1.01–1.08)	4.5×10^{-3}	1.075 (1.04–1.12)	1.7×10^{-4}	1.129 (1.06–1.20)	1.8×10^{-4}	Yes
Papilledema	3,258	0.10	1.117 (1.03–1.21)	4.9×10^{-3}	1.011 (0.94–1.09)	7.9×10^{-1}	1.194 (1.03–1.38)	1.9×10^{-2}	Yes
Benign Colon Neoplasm	9,217	0.28	1.062 (1.02–1.11)	5.0×10^{-3}	0.979 (0.94–1.01)	2.4×10^{-1}	1.108 (1.02–1.20)	1.3×10^{-2}	No
Epilepsy Related Disorders	34,451	1.06	1.031 (1.01–1.05)	5.1×10^{-3}	1.003 (0.98–1.02)	7.9×10^{-1}	1.030 (0.99–1.07)	1.8×10^{-1}	Yes
Other Viral Hepatitis	9,546	0.29	1.060 (1.02–1.10)	5.6×10^{-3}	1.040 (0.99–1.09)	1.2×10^{-1}	1.093 (1.00–1.19)	3.9×10^{-2}	Yes
Non-Specific Chromosomal Anomaly	1,468	0.04	0.869 (0.79–0.96)	5.7×10^{-3}	0.985 (0.89–1.09)	7.6×10^{-1}	–	–	Yes
Unspecified Cancer	55,951	1.73	1.027 (1.01–1.05)	6.9×10^{-3}	1.033 (1.01–1.05)	1.9×10^{-3}	1.047 (1.02–1.08)	3.6×10^{-3}	Yes
Glaucoma	27,192	0.84	0.964 (0.94–0.99)	7.1×10^{-3}	1.005 (0.98–1.04)	7.2×10^{-1}	0.991 (0.94–1.04)	6.9×10^{-1}	No
Unspecified Cerebellar Disease	509	0.02	0.804 (0.68–0.94)	8.0×10^{-3}	0.831 (0.68–1.02)	7.3×10^{-2}	–	–	Yes
Lipoma	13,173	0.41	1.052 (1.01–1.09)	8.4×10^{-3}	0.987 (0.95–1.03)	5.3×10^{-1}	1.018 (0.96–1.08)	5.7×10^{-1}	No
Deviated Nasal Septum	72,912	2.25	0.976 (0.96–0.99)	9.1×10^{-3}	0.985 (0.97–1.00)	5.6×10^{-2}	0.976 (0.95–1.00)	1.0×10^{-1}	Yes
Peripheral Vascular Disease	16,898	0.52	0.962 (0.93–0.99)	9.7×10^{-3}	0.978 (0.95–1.01)	1.8×10^{-1}	0.971 (0.92–1.03)	3.0×10^{-1}	Yes
Acquired Limb Deformities	5,333	0.17	0.925 (0.87–0.98)	1.0×10^{-2}	0.955 (0.89–1.03)	2.1×10^{-1}	0.980 (0.88–1.10)	7.2×10^{-1}	Yes
Inner Ear Disorder	6,852	0.21	1.067 (1.01–1.12)	1.1×10^{-2}	1.017 (0.96–1.08)	6.0×10^{-1}	1.035 (0.94–1.14)	4.7×10^{-1}	Yes
Lupus Erythematosus	3,939	0.12	1.095 (1.02–1.18)	1.1×10^{-2}	0.972 (0.90–1.05)	4.8×10^{-1}	1.152 (1.02–1.30)	2.6×10^{-2}	No
Thyrotoxicosis	14,095	0.44	1.044 (1.01–1.08)	1.2×10^{-2}	0.996 (0.96–1.03)	8.4×10^{-1}	1.079 (1.00–1.16)	4.3×10^{-2}	No
Unspecified Hyperlipidemia	75,643	2.34	0.975 (0.96–0.99)	1.2×10^{-2}	0.944 (0.93–0.96)	1.2×10^{-19}	1.013 (0.98–1.05)	4.9×10^{-1}	Yes
Carditis	5,778	0.18	1.073 (1.02–1.13)	1.3×10^{-2}	1.078 (1.02–1.14)	1.0×10^{-2}	1.105 (1.01–1.22)	3.8×10^{-2}	Yes
Hepatobiliary Congenital Anomaly	732	0.02	1.206 (1.04–1.40)	1.3×10^{-2}	1.210 (1.01–1.45)	3.6×10^{-2}	–	–	Yes
Phlebitis Thrombophlebitis	4,674	0.14	1.079 (1.02–1.15)	1.3×10^{-2}	1.060 (0.99–1.14)	1.1×10^{-1}	1.082 (0.97–1.21)	1.7×10^{-1}	Yes
Non-Specific Congenital Integumentary Anomaly	6,407	0.20	0.931 (0.88–0.99)	1.3×10^{-2}	0.921 (0.88–0.96)	5.6×10^{-4}	0.917 (0.83–1.01)	9.4×10^{-2}	Yes
Aneurysm	4,395	0.14	0.922 (0.86–0.98)	1.3×10^{-2}	0.963 (0.91–1.02)	1.8×10^{-1}	0.938 (0.84–1.05)	2.6×10^{-1}	Yes

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
PTSD	18,390	0.57	1.046 (1.01–1.08)	1.4×10^{-2}	0.975 (0.95–1.00)	9.1×10^{-2}	1.094 (1.02–1.17)	8.7×10^{-3}	No
Celiac Disease	2,959	0.09	0.912 (0.85–0.98)	1.4×10^{-2}	1.044 (0.99–1.10)	1.4×10^{-1}	0.906 (0.78–1.06)	2.0×10^{-1}	No
Non-Specific Nephropathy	9,717	0.30	1.053 (1.01–1.10)	1.5×10^{-2}	1.016 (0.98–1.06)	4.3×10^{-1}	1.087 (1.00–1.18)	3.8×10^{-2}	Yes
Meningitis	5,415	0.17	1.083 (1.02–1.15)	1.5×10^{-2}	1.081 (1.01–1.16)	2.1×10^{-2}	1.177 (1.04–1.33)	8.9×10^{-3}	Yes
Benign Breast Neoplasm	7,481	0.23	1.063 (1.01–1.12)	1.5×10^{-2}	0.960 (0.90–1.02)	2.2×10^{-1}	1.095 (1.01–1.19)	3.7×10^{-2}	No
Septicemia	9,441	0.29	1.058 (1.01–1.11)	1.6×10^{-2}	1.035 (0.99–1.08)	8.9×10^{-2}	1.058 (0.97–1.16)	2.3×10^{-1}	Yes
General Paralysis	712	0.14	1.188 (1.03–1.37)	1.8×10^{-2}	1.091 (1.02–1.17)	9.5×10^{-3}	0.999 (0.86–1.17)	9.9×10^{-1}	Yes
Hernia	39,100	1.21	1.026 (1.00–1.05)	1.9×10^{-2}	1.004 (0.98–1.03)	6.7×10^{-1}	1.065 (1.02–1.11)	1.5×10^{-3}	Yes
Chronic Kidney Disease	6,342	0.20	1.069 (1.01–1.13)	2.0×10^{-2}	0.994 (0.96–1.03)	7.4×10^{-1}	1.203 (1.09–1.32)	1.5×10^{-4}	No
Chronic Sinusitis	276,017	8.54	0.987 (0.98–1.00)	2.1×10^{-2}	0.944 (0.94–0.95)	3.4×10^{-36}	0.968 (0.95–0.98)	1.5×10^{-4}	Yes
Respiratory Congenital Anomaly	1,567	0.05	0.895 (0.81–0.98)	2.1×10^{-2}	1.006 (0.90–1.13)	9.1×10^{-1}	–	–	No
Diverticulosis Diverticulitis	4,189	0.13	1.069 (1.01–1.13)	2.3×10^{-2}	1.011 (0.97–1.05)	6.0×10^{-1}	1.161 (1.03–1.31)	1.7×10^{-2}	Yes
Myoneural Disorders	897	0.03	0.831 (0.71–0.98)	2.3×10^{-2}	0.928 (0.80–1.08)	3.2×10^{-1}	–	–	Yes
Parasitic Infection	8,988	0.28	0.953 (0.91–0.99)	2.5×10^{-2}	0.960 (0.91–1.01)	1.3×10^{-1}	0.935 (0.87–1.01)	8.7×10^{-2}	Yes
Functional Digestive Disorder	214,856	6.64	1.012 (1.00–1.02)	2.5×10^{-2}	0.985 (0.98–0.99)	6.2×10^{-4}	1.048 (1.03–1.07)	1.6×10^{-7}	No
General Dementia	2,187	0.07	0.907 (0.83–0.99)	2.8×10^{-2}	0.985 (0.90–1.08)	7.5×10^{-1}	0.950 (0.80–1.12)	5.5×10^{-1}	Yes
Female Genital Cancer	1,886	0.06	1.103 (1.01–1.20)	3.1×10^{-2}	0.967 (0.83–1.12)	6.6×10^{-1}	1.096 (0.92–1.30)	2.9×10^{-1}	No
Dermatitis Herpetiformis	1,203	0.04	0.874 (0.77–0.99)	3.4×10^{-2}	0.882 (0.76–1.02)	8.6×10^{-2}	–	–	Yes
Schizophrenia Related Psychosis	25,155	0.78	0.972 (0.95–1.00)	3.4×10^{-2}	0.971 (0.95–1.00)	2.6×10^{-2}	0.980 (0.93–1.03)	4.6×10^{-1}	Yes
Complex Regional Pain Syndrome	3,271	0.10	1.081 (1.01–1.16)	3.5×10^{-2}	1.115 (1.02–1.22)	2.0×10^{-2}	1.220 (1.07–1.39)	2.3×10^{-3}	Yes
Non-Specific Anemia	142,851	4.42	1.017 (1.00–1.03)	3.7×10^{-2}	1.006 (1.00–1.02)	2.7×10^{-1}	1.035 (1.01–1.06)	3.9×10^{-3}	Yes
Unspecified Plasma Protein Metabolism Disorder	6,964	0.21	1.052 (1.00–1.10)	3.7×10^{-2}	1.024 (0.97–1.08)	3.8×10^{-1}	1.040 (0.95–1.14)	4.1×10^{-1}	Yes
General Thrombocytopenia	13,212	0.41	1.037 (1.00–1.07)	3.8×10^{-2}	1.039 (1.00–1.08)	2.8×10^{-2}	1.047 (0.97–1.13)	2.3×10^{-1}	Yes
Viral Hepatitis C	2,772	0.09	1.082 (1.00–1.17)	4.0×10^{-2}	1.033 (0.96–1.11)	3.8×10^{-1}	1.254 (1.07–1.48)	6.6×10^{-3}	Yes
General Bacterial Infection	39,689	1.23	1.023 (1.00–1.05)	4.0×10^{-2}	1.023 (1.00–1.04)	2.6×10^{-2}	1.030 (0.98–1.08)	2.0×10^{-1}	Yes
Atopic Contact Dermatitis	609,538	18.85	0.992 (0.98–1.00)	4.1×10^{-2}	0.996 (0.99–1.00)	1.6×10^{-1}	0.996 (0.98–1.01)	4.7×10^{-1}	Yes
Benign Ovarian Neoplasm	1,784	0.06	1.104 (1.00–1.22)	4.4×10^{-2}	0.947 (0.81–1.11)	5.0×10^{-1}	–	–	No
Unspecified Neuropathy	5,922	0.18	1.055 (1.00–1.11)	4.6×10^{-2}	1.004 (0.95–1.06)	8.8×10^{-1}	1.136 (1.04–1.25)	7.2×10^{-3}	Yes
Hereditary Hemoglobin Disease	3,029	0.09	1.078 (1.00–1.16)	4.7×10^{-2}	1.044 (0.98–1.11)	1.6×10^{-1}	1.112 (0.95–1.31)	2.0×10^{-1}	Yes
Type I Diabetes Mellitus	18,918	0.58	1.031 (1.00–1.06)	4.8×10^{-2}	0.960 (0.93–0.99)	2.4×10^{-3}	1.013 (0.92–1.11)	7.9×10^{-1}	No
Congenital Breast Anomaly	2,357	0.07	1.089 (1.00–1.18)	4.8×10^{-2}	0.999 (0.88–1.13)	9.9×10^{-1}	1.067 (0.91–1.25)	4.2×10^{-1}	No
CNS Infection	561	0.02	1.192 (1.00–1.42)	5.2×10^{-2}	1.054 (0.87–1.27)	5.8×10^{-1}	–	–	Yes
Bladder Disorder	14,077	0.43	1.035 (1.00–1.07)	5.2×10^{-2}	1.006 (0.97–1.04)	7.5×10^{-1}	1.090 (1.02–1.17)	1.1×10^{-2}	Yes

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Disorders of Iris Ciliary Body	4,308	0.13	1.062 (1.00–1.13)	5.8×10^{-2}	1.126 (1.04–1.22)	4.7×10^{-3}	1.119 (1.00–1.26)	5.6×10^{-2}	Yes
Crohns Disease	11,831	0.37	0.965 (0.93–1.00)	5.9×10^{-2}	0.975 (0.94–1.01)	1.7×10^{-1}	0.972 (0.91–1.04)	4.1×10^{-1}	Yes
Non-Specific Digestive Congenital Anomaly	3,674	0.11	1.068 (1.00–1.14)	5.9×10^{-2}	1.038 (0.97–1.12)	3.1×10^{-1}	1.013 (0.89–1.15)	8.4×10^{-1}	Yes
Non-Specific Peritoneal Disorder	4,239	0.13	1.066 (1.00–1.14)	6.2×10^{-2}	1.050 (0.99–1.11)	8.3×10^{-2}	1.138 (1.00–1.29)	5.0×10^{-2}	Yes
Familial Adenomatous Polyposis	752	0.02	1.150 (0.99–1.33)	6.4×10^{-2}	0.858 (0.71–1.04)	1.2×10^{-1}	–	–	No
Kidney Cancer	648	0.02	1.142 (0.99–1.32)	6.9×10^{-2}	1.142 (0.99–1.32)	6.9×10^{-2}	–	–	Yes
Congenital Spine Anomaly	14,920	0.46	1.027 (1.00–1.06)	7.1×10^{-2}	1.099 (1.05–1.15)	1.2×10^{-5}	0.976 (0.93–1.03)	3.6×10^{-1}	Yes
Macular Degeneration	2,903	0.09	1.068 (0.99–1.15)	7.3×10^{-2}	1.059 (0.97–1.16)	2.1×10^{-1}	1.162 (1.01–1.33)	3.2×10^{-2}	Yes
Non-Specific Prostate Disease	3,490	0.11	0.943 (0.88–1.01)	8.1×10^{-2}	0.910 (0.84–0.99)	2.6×10^{-2}	1.049 (0.91–1.20)	5.0×10^{-1}	Yes
Goiter	37,832	1.17	1.018 (1.00–1.04)	8.7×10^{-2}	0.959 (0.94–0.98)	2.4×10^{-4}	1.049 (1.01–1.09)	1.4×10^{-2}	No
Paranoia	2,861	0.09	0.937 (0.87–1.01)	8.9×10^{-2}	0.936 (0.87–1.01)	7.8×10^{-2}	0.925 (0.79–1.08)	3.2×10^{-1}	Yes
Unspecified Immune Disorder	14,360	0.44	0.971 (0.94–1.00)	9.0×10^{-2}	0.987 (0.95–1.02)	4.8×10^{-1}	1.011 (0.95–1.07)	7.3×10^{-1}	Yes
Metabolic Syndrome X	17,898	0.55	1.029 (1.00–1.06)	9.0×10^{-2}	0.961 (0.93–0.99)	1.1×10^{-2}	1.008 (0.95–1.07)	8.0×10^{-1}	No
Pulmonary Heart Disease	2,271	0.07	1.069 (0.99–1.16)	9.8×10^{-2}	1.066 (0.98–1.17)	1.6×10^{-1}	1.144 (0.98–1.34)	9.0×10^{-2}	Yes
Intellectual Disability	7,320	0.23	1.039 (0.99–1.09)	1.0×10^{-1}	1.068 (1.02–1.12)	4.1×10^{-3}	1.109 (1.00–1.23)	5.0×10^{-2}	Yes
Bone Infection	990	0.03	1.105 (0.98–1.25)	1.2×10^{-1}	1.075 (0.96–1.20)	2.1×10^{-1}	–	–	Yes
Charcot Marie Tooth Disease	575	0.02	0.881 (0.75–1.03)	1.2×10^{-1}	0.987 (0.84–1.16)	8.7×10^{-1}	–	–	Yes
Varicella Infection	13,374	0.41	0.974 (0.94–1.01)	1.2×10^{-1}	0.982 (0.93–1.03)	4.8×10^{-1}	0.892 (0.84–0.95)	3.5×10^{-4}	Yes
Optic Disc Disorder	5,430	0.17	0.948 (0.89–1.01)	1.2×10^{-1}	0.945 (0.89–1.01)	8.7×10^{-2}	0.992 (0.88–1.12)	8.9×10^{-1}	Yes
Corneal Disorders	70,393	2.18	1.013 (1.00–1.03)	1.2×10^{-1}	1.037 (1.02–1.06)	7.6×10^{-4}	1.026 (1.00–1.06)	8.2×10^{-2}	Yes
Unspecified Hematological Disorder	7,190	0.22	1.038 (0.99–1.09)	1.2×10^{-1}	0.967 (0.92–1.02)	2.0×10^{-1}	0.987 (0.90–1.08)	7.8×10^{-1}	No
Colorectal Cancer	818	0.03	1.099 (0.97–1.24)	1.3×10^{-1}	1.010 (0.93–1.10)	8.1×10^{-1}	–	–	Yes
Unspecified Hepatitis	1,242	0.04	0.911 (0.81–1.03)	1.3×10^{-1}	0.907 (0.81–1.02)	9.2×10^{-2}	–	–	Yes
Thyroiditis	23,720	0.73	1.022 (0.99–1.05)	1.3×10^{-1}	0.982 (0.96–1.01)	1.5×10^{-1}	1.046 (0.99–1.11)	1.2×10^{-1}	No
Generalized Lipidoses	2,340	0.07	0.938 (0.86–1.02)	1.3×10^{-1}	0.955 (0.89–1.02)	1.6×10^{-1}	–	–	Yes
Congenital Hypothyroidism	650	0.02	0.890 (0.76–1.04)	1.4×10^{-1}	0.815 (0.68–0.98)	2.8×10^{-2}	–	–	Yes
Benign Thyroid Neoplasm	605	0.02	1.136 (0.96–1.34)	1.4×10^{-1}	0.966 (0.79–1.19)	7.4×10^{-1}	–	–	No
Breast Cancer	2,263	0.07	1.063 (0.98–1.15)	1.4×10^{-1}	0.967 (0.90–1.04)	3.7×10^{-1}	1.148 (0.96–1.37)	1.2×10^{-1}	No
Circulating Enzyme Deficiency	563	0.02	0.877 (0.74–1.04)	1.4×10^{-1}	0.904 (0.76–1.08)	2.6×10^{-1}	–	–	Yes
Sweat Gland Disorder	4,432	0.14	0.954 (0.90–1.02)	1.4×10^{-1}	0.909 (0.84–0.98)	1.2×10^{-2}	0.919 (0.82–1.03)	1.4×10^{-1}	Yes
Oro-Naso-Pharyngeal Cancer	1,556	0.05	0.927 (0.84–1.03)	1.4×10^{-1}	0.912 (0.83–1.00)	5.5×10^{-2}	–	–	Yes
Visual Pathway Cortex Disorder	1,409	0.04	0.929 (0.84–1.03)	1.5×10^{-1}	0.980 (0.86–1.11)	7.5×10^{-1}	–	–	Yes

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Viral Hepatitis B	1,694	0.05	0.933 (0.85–1.03)	1.5×10^{-1}	1.007 (0.93–1.09)	8.7×10^{-1}	–	–	No
Cataplexy Narcolepsy	3,638	0.11	1.047 (0.98–1.11)	1.5×10^{-1}	1.014 (0.94–1.09)	7.0×10^{-1}	1.061 (0.93–1.21)	3.8×10^{-1}	Yes
Psoriasis Related Disorders	65,207	2.02	0.987 (0.97–1.00)	1.6×10^{-1}	0.955 (0.94–0.97)	2.0×10^{-6}	0.990 (0.96–1.02)	4.8×10^{-1}	Yes
Homocystinuria	957	0.03	0.922 (0.82–1.03)	1.6×10^{-1}	1.027 (0.89–1.19)	7.2×10^{-1}	–	–	No
Hemiplegia	2,886	0.09	0.946 (0.87–1.02)	1.7×10^{-1}	0.911 (0.84–0.99)	2.1×10^{-2}	–	–	Yes
Oral Soft Tissue Disease	83,829	2.59	0.988 (0.97–1.01)	1.7×10^{-1}	0.979 (0.96–0.99)	7.0×10^{-3}	0.987 (0.96–1.01)	3.6×10^{-1}	Yes
Hereditary Dental Anomaly	3,384	0.10	0.954 (0.89–1.02)	1.8×10^{-1}	0.989 (0.91–1.08)	8.1×10^{-1}	0.889 (0.79–1.00)	5.3×10^{-2}	Yes
Secondary Diabetes Mellitus	1,367	0.04	1.075 (0.97–1.19)	1.8×10^{-1}	0.970 (0.89–1.06)	4.9×10^{-1}	–	–	No
Benign Female Genital Neoplasm	10,030	0.31	1.029 (0.99–1.07)	1.8×10^{-1}	1.041 (0.99–1.09)	1.3×10^{-1}	1.056 (0.98–1.14)	1.7×10^{-1}	Yes
Lipoprotein Deficiency	2,515	0.08	0.949 (0.88–1.03)	1.8×10^{-1}	0.908 (0.85–0.98)	8.2×10^{-3}	0.891 (0.76–1.05)	1.6×10^{-1}	Yes
Vascular Insufficiency	1,797	0.06	1.063 (0.97–1.17)	1.9×10^{-1}	1.020 (0.92–1.13)	7.1×10^{-1}	–	–	Yes
Inflammatory Toxic Neuropathy	1,761	0.05	1.062 (0.97–1.17)	2.1×10^{-1}	0.896 (0.81–0.99)	3.4×10^{-2}	–	–	No
Globe Disorders	1,139	0.04	1.082 (0.95–1.23)	2.2×10^{-1}	1.050 (0.91–1.21)	5.0×10^{-1}	–	–	Yes
Megaloblastic Anemia	946	0.03	1.087 (0.95–1.24)	2.2×10^{-1}	1.058 (0.95–1.18)	3.1×10^{-1}	–	–	Yes
Iron Metabolism Disorder	1,604	0.05	1.061 (0.96–1.17)	2.3×10^{-1}	0.994 (0.91–1.09)	8.9×10^{-1}	–	–	No
Cystic Fibrosis	2,297	0.07	1.055 (0.97–1.15)	2.3×10^{-1}	1.127 (1.03–1.23)	8.9×10^{-3}	1.082 (0.92–1.27)	3.4×10^{-1}	Yes
Unspecified Diabetes Mellitus	1,523	0.05	1.064 (0.96–1.18)	2.4×10^{-1}	0.983 (0.88–1.09)	7.5×10^{-1}	–	–	No
Mucopolysaccharidosis	898	0.03	1.085 (0.95–1.24)	2.4×10^{-1}	0.938 (0.85–1.03)	1.8×10^{-1}	–	–	No
Atherosclerosis	6,233	0.19	1.034 (0.98–1.09)	2.4×10^{-1}	0.996 (0.96–1.03)	8.2×10^{-1}	1.133 (1.01–1.26)	2.7×10^{-2}	No
Non-Specific Thyroid Disorder	16,240	0.50	1.020 (0.99–1.05)	2.4×10^{-1}	0.956 (0.92–0.99)	8.3×10^{-3}	1.030 (0.97–1.09)	3.3×10^{-1}	No
Radiation Sensitivity	688	0.02	1.103 (0.93–1.30)	2.5×10^{-1}	0.989 (0.83–1.19)	9.1×10^{-1}	–	–	No
Rectal Anal Disorder	32,041	0.99	1.014 (0.99–1.04)	2.5×10^{-1}	0.989 (0.97–1.01)	3.8×10^{-1}	1.074 (1.03–1.12)	1.1×10^{-3}	No
Multiple Sclerosis Other Demyelinating Disease	2,388	0.07	1.048 (0.97–1.13)	2.5×10^{-1}	0.951 (0.88–1.03)	2.0×10^{-1}	1.061 (0.90–1.24)	4.7×10^{-1}	No
Autonomic System Disorder	3,936	0.12	1.044 (0.97–1.12)	2.5×10^{-1}	1.060 (0.99–1.13)	8.4×10^{-2}	0.928 (0.82–1.05)	2.5×10^{-1}	Yes
Lactose Intolerance	8,323	0.26	1.026 (0.98–1.07)	2.6×10^{-1}	1.011 (0.96–1.07)	6.8×10^{-1}	0.985 (0.91–1.06)	6.9×10^{-1}	Yes
Cerebral Cysts	857	0.03	1.079 (0.95–1.23)	2.6×10^{-1}	1.038 (0.94–1.15)	4.7×10^{-1}	–	–	Yes
Benign Endocrine Neoplasm	2,682	0.08	0.955 (0.88–1.03)	2.6×10^{-1}	0.915 (0.83–1.00)	5.9×10^{-2}	1.059 (0.91–1.23)	4.5×10^{-1}	Yes
Septic Arthritis	1,587	0.05	1.056 (0.96–1.16)	2.7×10^{-1}	1.099 (0.98–1.24)	1.2×10^{-1}	–	–	Yes
Chronic Pruritus	58,800	1.82	0.991 (0.97–1.01)	3.0×10^{-1}	0.994 (0.98–1.01)	4.8×10^{-1}	1.019 (0.99–1.05)	2.8×10^{-1}	Yes
Eye Infection	379,735	11.74	0.995 (0.99–1.00)	3.1×10^{-1}	0.984 (0.98–0.99)	6.3×10^{-5}	1.021 (1.01–1.04)	2.3×10^{-3}	Yes
Syndrome with Pervasive Congenital Anomalies	3,164	0.10	1.038 (0.96–1.12)	3.2×10^{-1}	1.116 (1.03–1.21)	9.1×10^{-3}	1.099 (0.97–1.25)	1.5×10^{-1}	Yes
Congenital Hair Anomaly	930	0.03	1.077 (0.93–1.25)	3.2×10^{-1}	1.076 (0.91–1.27)	3.8×10^{-1}	–	–	Yes
Tongue Disease	8,227	0.25	1.021 (0.98–1.06)	3.4×10^{-1}	1.029 (0.98–1.08)	2.4×10^{-1}	1.008 (0.94–1.08)	8.2×10^{-1}	Yes

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Acquired Hemolytic Anemias	842	0.03	1.076 (0.93–1.25)	3.4×10^{-1}	0.973 (0.84–1.13)	7.1×10^{-1}	–	–	No
Benign Urinary Neoplasm	564	0.02	1.090 (0.91–1.30)	3.4×10^{-1}	1.225 (1.00–1.50)	5.1×10^{-2}	–	–	Yes
Conjunctival Disorders	23,763	0.73	0.986 (0.96–1.01)	3.4×10^{-1}	1.008 (0.98–1.04)	6.3×10^{-1}	0.983 (0.94–1.03)	5.2×10^{-1}	No
Ovarian Cancer	562	0.02	1.083 (0.92–1.28)	3.5×10^{-1}	1.011 (0.87–1.18)	8.9×10^{-1}	–	–	Yes
Dissociative Disorder	1,482	0.05	0.949 (0.85–1.06)	3.5×10^{-1}	0.909 (0.83–1.00)	5.1×10^{-2}	–	–	Yes
Chronic Glomerulonephritis	1,276	0.04	1.055 (0.94–1.18)	3.6×10^{-1}	1.094 (0.95–1.25)	2.0×10^{-1}	–	–	Yes
Benign CNS Neoplasm	2,649	0.08	0.966 (0.90–1.04)	3.6×10^{-1}	0.982 (0.91–1.07)	6.7×10^{-1}	1.052 (0.91–1.22)	5.0×10^{-1}	Yes
Anterior Eye Anomaly	718	0.02	0.935 (0.81–1.08)	3.6×10^{-1}	1.069 (0.91–1.26)	4.2×10^{-1}	–	–	No
Aplastic Anemia	1,203	0.04	1.056 (0.94–1.19)	3.6×10^{-1}	1.077 (0.94–1.23)	2.7×10^{-1}	–	–	Yes
Vasculitis	2,929	0.09	1.036 (0.96–1.12)	3.6×10^{-1}	1.022 (0.94–1.11)	6.1×10^{-1}	1.044 (0.91–1.19)	5.2×10^{-1}	Yes
Behcets Syndrome	1,306	0.04	0.955 (0.87–1.05)	3.7×10^{-1}	0.952 (0.89–1.02)	1.5×10^{-1}	–	–	Yes
Nail Disease	130,383	4.03	1.005 (0.99–1.02)	3.7×10^{-1}	0.965 (0.95–0.98)	8.1×10^{-8}	0.990 (0.97–1.01)	3.3×10^{-1}	No
Unspecified Benign Neoplasm	7,363	0.23	1.022 (0.97–1.07)	3.7×10^{-1}	1.017 (0.96–1.07)	5.4×10^{-1}	1.031 (0.94–1.13)	5.2×10^{-1}	Yes
Dermatomyositis Polymyositis	864	0.03	0.941 (0.82–1.08)	3.8×10^{-1}	0.979 (0.84–1.14)	7.9×10^{-1}	–	–	Yes
Benign Bone Connective Tissue Neoplasm	21,571	0.67	1.012 (0.98–1.04)	3.9×10^{-1}	1.059 (1.02–1.09)	6.8×10^{-4}	1.006 (0.96–1.05)	7.9×10^{-1}	Yes
Pancytopenia	1,807	0.06	1.038 (0.95–1.13)	3.9×10^{-1}	1.109 (1.02–1.21)	1.6×10^{-2}	–	–	Yes
Arterial Embolism Thrombosis	948	0.03	1.054 (0.93–1.19)	4.0×10^{-1}	1.042 (0.90–1.21)	5.9×10^{-1}	–	–	Yes
Hereditary Progressive Muscular Dystrophy	966	0.03	0.947 (0.83–1.08)	4.0×10^{-1}	1.029 (0.88–1.20)	7.1×10^{-1}	–	–	No
Alzheimers Disease	568	0.02	1.073 (0.91–1.27)	4.1×10^{-1}	1.037 (0.89–1.21)	6.4×10^{-1}	–	–	Yes
Male Genital Cancer	1,528	0.05	1.041 (0.95–1.14)	4.1×10^{-1}	0.955 (0.83–1.10)	5.2×10^{-1}	–	–	No
Hereditary Harartoses	615	0.02	1.078 (0.90–1.29)	4.1×10^{-1}	1.117 (0.93–1.34)	2.4×10^{-1}	–	–	Yes
Parathyroid Disorder	2,061	0.06	1.036 (0.95–1.13)	4.1×10^{-1}	1.017 (0.94–1.10)	6.7×10^{-1}	1.092 (0.94–1.27)	2.4×10^{-1}	Yes
Unspecified Middle Ear Mastoid Diseases	1,908	0.06	0.965 (0.88–1.05)	4.2×10^{-1}	0.971 (0.86–1.09)	6.2×10^{-1}	1.105 (0.91–1.34)	3.0×10^{-1}	Yes
Spirochetal Infection	1,311	0.04	1.047 (0.94–1.17)	4.2×10^{-1}	0.936 (0.84–1.05)	2.5×10^{-1}	–	–	No
Vascular Congenital Anomaly	8,968	0.28	0.983 (0.94–1.03)	4.2×10^{-1}	1.016 (0.97–1.06)	4.9×10^{-1}	0.991 (0.92–1.07)	8.2×10^{-1}	No
Connective Tissue Infection	995	0.03	1.051 (0.93–1.19)	4.3×10^{-1}	0.969 (0.85–1.11)	6.5×10^{-1}	–	–	No
Phosphorus Metabolism Disorder	2,036	0.06	1.037 (0.95–1.14)	4.3×10^{-1}	1.128 (1.04–1.22)	2.8×10^{-3}	–	–	Yes
Myeloid Leukemia	1,194	0.04	1.045 (0.93–1.17)	4.4×10^{-1}	1.032 (0.92–1.16)	6.0×10^{-1}	–	–	Yes
Turners Syndrome	822	0.03	0.941 (0.81–1.10)	4.4×10^{-1}	1.055 (0.88–1.26)	5.5×10^{-1}	–	–	No
Sexual Dysfunction	582	0.02	0.933 (0.78–1.11)	4.4×10^{-1}	1.037 (0.88–1.22)	6.5×10^{-1}	–	–	No
Urethral Disorder	3,322	0.10	1.029 (0.95–1.11)	4.5×10^{-1}	0.915 (0.84–0.99)	3.0×10^{-2}	0.968 (0.84–1.12)	6.6×10^{-1}	No

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Disease of the Male Reproductive Organs	125,779	3.89	1.005 (0.99–1.02)	4.5×10^{-1}	1.023 (1.01–1.03)	4.9×10^{-5}	1.010 (0.99–1.03)	3.7×10^{-1}	Yes
Alpha-1-Antitrypsin Deficiency	528	0.02	1.068 (0.90–1.27)	4.6×10^{-1}	1.073 (0.90–1.28)	4.3×10^{-1}	–	–	Yes
Non-Hodgkins Lymphoma	2,862	0.09	0.973 (0.90–1.05)	4.7×10^{-1}	0.989 (0.91–1.07)	8.0×10^{-1}	0.907 (0.77–1.06)	2.3×10^{-1}	Yes
Cardiac Congenital Anomaly	28,268	0.87	1.009 (0.98–1.03)	4.7×10^{-1}	1.007 (0.98–1.03)	6.1×10^{-1}	0.998 (0.96–1.04)	9.4×10^{-1}	Yes
Spinal Chord Degeneration	3,252	0.10	1.025 (0.96–1.10)	4.8×10^{-1}	0.991 (0.92–1.06)	8.1×10^{-1}	1.035 (0.90–1.19)	6.3×10^{-1}	No
Unspecified Immune Deficiency	6,045	0.19	1.020 (0.96–1.08)	4.8×10^{-1}	0.959 (0.91–1.01)	1.0×10^{-1}	0.993 (0.90–1.10)	9.0×10^{-1}	No
Extrapyramidal Abnormal Movement Disorders	22,245	0.69	0.990 (0.96–1.02)	5.0×10^{-1}	0.990 (0.96–1.02)	4.9×10^{-1}	0.987 (0.93–1.04)	6.3×10^{-1}	Yes
Influenza	290,156	8.97	0.995 (0.98–1.01)	5.0×10^{-1}	0.969 (0.96–0.98)	3.0×10^{-13}	0.981 (0.96–1.00)	7.0×10^{-2}	Yes
Chondrodystrophy	1,335	0.04	1.043 (0.92–1.18)	5.1×10^{-1}	1.143 (0.99–1.32)	7.4×10^{-2}	–	–	Yes
Rheumatoid Arthritis Related Conditions	12,585	0.39	1.012 (0.98–1.05)	5.1×10^{-1}	0.974 (0.94–1.01)	1.7×10^{-1}	1.062 (0.99–1.14)	1.0×10^{-1}	No
Congenital Nail Anomaly	647	0.02	0.949 (0.81–1.11)	5.2×10^{-1}	0.918 (0.75–1.12)	4.0×10^{-1}	–	–	Yes
Non-Specific Humoral Deficiency	2,883	0.09	1.024 (0.95–1.10)	5.4×10^{-1}	0.945 (0.87–1.02)	1.5×10^{-1}	1.048 (0.90–1.22)	5.3×10^{-1}	No
Encephalitis	2,515	0.08	0.977 (0.91–1.05)	5.4×10^{-1}	0.993 (0.91–1.08)	8.6×10^{-1}	0.984 (0.84–1.16)	8.4×10^{-1}	Yes
Viral Hepatitis A	1,139	0.04	0.964 (0.86–1.09)	5.4×10^{-1}	0.987 (0.86–1.14)	8.6×10^{-1}	–	–	Yes
Uterine Cancer	687	0.02	0.951 (0.81–1.12)	5.4×10^{-1}	0.685 (0.55–0.85)	7.1×10^{-4}	–	–	Yes
Congenital Pigmentary Anomaly	1,977	0.06	1.027 (0.94–1.12)	5.6×10^{-1}	0.921 (0.82–1.03)	1.5×10^{-1}	1.073 (0.90–1.28)	4.3×10^{-1}	No
Addisons Disease	3,325	0.10	1.020 (0.95–1.09)	5.7×10^{-1}	1.038 (0.97–1.11)	3.0×10^{-1}	1.073 (0.94–1.22)	2.8×10^{-1}	Yes
Cardiac Conduction Disorder	12,161	0.38	0.990 (0.96–1.03)	5.9×10^{-1}	1.020 (0.98–1.06)	2.7×10^{-1}	1.011 (0.94–1.09)	7.5×10^{-1}	No
Cataract	5,188	0.16	0.985 (0.93–1.04)	5.9×10^{-1}	1.010 (0.95–1.07)	7.5×10^{-1}	1.030 (0.93–1.14)	5.6×10^{-1}	No
Other Infectious Diseases	10,938	0.34	1.013 (0.97–1.06)	5.9×10^{-1}	1.001 (0.96–1.04)	9.7×10^{-1}	1.033 (0.96–1.11)	3.9×10^{-1}	Yes
Cardiomyopathy	4,599	0.14	1.016 (0.96–1.08)	6.0×10^{-1}	0.923 (0.87–0.98)	1.2×10^{-2}	1.043 (0.93–1.17)	4.8×10^{-1}	No
Haemophilia Related Diseases	4,470	0.14	0.985 (0.93–1.04)	6.1×10^{-1}	0.976 (0.91–1.04)	4.7×10^{-1}	0.962 (0.86–1.08)	5.1×10^{-1}	Yes
Menopausal Disorder	5,117	0.16	1.015 (0.96–1.07)	6.2×10^{-1}	1.001 (0.96–1.04)	9.7×10^{-1}	0.991 (0.89–1.11)	8.8×10^{-1}	Yes
CNS Cancer	3,508	0.11	1.017 (0.95–1.09)	6.4×10^{-1}	1.016 (0.94–1.09)	6.8×10^{-1}	1.031 (0.90–1.18)	6.6×10^{-1}	Yes
Ichthyosis Congenita	942	0.03	0.969 (0.85–1.11)	6.5×10^{-1}	0.991 (0.85–1.15)	9.1×10^{-1}	–	–	Yes
Orbit Disorders	3,127	0.10	1.016 (0.95–1.09)	6.5×10^{-1}	0.944 (0.87–1.02)	1.7×10^{-1}	1.099 (0.97–1.25)	1.5×10^{-1}	No
Acquired Other Myopathies	1,927	0.06	1.023 (0.92–1.13)	6.6×10^{-1}	1.012 (0.92–1.12)	8.2×10^{-1}	1.106 (0.92–1.32)	2.7×10^{-1}	Yes
Bladder Cancer	559	0.02	0.959 (0.79–1.16)	6.6×10^{-1}	0.958 (0.83–1.10)	5.5×10^{-1}	–	–	Yes
Lung Cancer	506	0.02	1.037 (0.88–1.23)	6.7×10^{-1}	1.002 (0.88–1.14)	9.7×10^{-1}	–	–	Yes
Common Variable Immunodeficiency	957	0.03	1.028 (0.90–1.17)	6.8×10^{-1}	0.938 (0.82–1.07)	3.3×10^{-1}	–	–	No

Disease		<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Unspecified Disorder	Polyglandular	582	0.02	1.041 (0.86–1.26)	6.8×10^{-1}	1.111 (0.91–1.35)	3.0×10^{-1}	–	–	Yes
Upper Respiratory Inflammation		740,474	22.90	1.002 (0.99–1.01)	6.8×10^{-1}	1.011 (1.01–1.02)	5.0×10^{-6}	1.004 (0.99–1.02)	6.0×10^{-1}	Yes
Pulmonary Embolism Infarction		2,463	0.08	1.017 (0.94–1.10)	6.8×10^{-1}	0.937 (0.87–1.00)	6.8×10^{-2}	1.072 (0.91–1.27)	4.2×10^{-1}	No
Non-Specific Vascular Disease		73,441	2.27	0.997 (0.98–1.01)	6.8×10^{-1}	1.027 (1.01–1.04)	8.3×10^{-4}	1.025 (0.99–1.06)	1.4×10^{-1}	No
General Cerebral Degeneration		972	0.03	1.025 (0.91–1.16)	6.9×10^{-1}	1.070 (0.93–1.22)	3.3×10^{-1}	–	–	Yes
Non-Specific Hemoglobinopathies		2,922	0.09	0.986 (0.92–1.06)	7.0×10^{-1}	0.991 (0.92–1.06)	8.0×10^{-1}	0.974 (0.86–1.10)	6.8×10^{-1}	Yes
Cerebrovascular Disease		16,758	0.52	1.006 (0.97–1.04)	7.1×10^{-1}	0.992 (0.96–1.03)	6.2×10^{-1}	1.016 (0.95–1.09)	6.5×10^{-1}	No
Mixed Hyperlipidemia		26,767	0.83	0.994 (0.96–1.03)	7.1×10^{-1}	0.967 (0.95–0.98)	2.2×10^{-4}	1.030 (0.99–1.08)	1.9×10^{-1}	Yes
Hodgkins Disease		1,263	0.04	0.980 (0.88–1.10)	7.3×10^{-1}	1.025 (0.91–1.15)	6.8×10^{-1}	–	–	No
Secondary Malignant Neoplasm		2,363	0.07	0.985 (0.90–1.07)	7.3×10^{-1}	0.973 (0.92–1.03)	3.3×10^{-1}	–	–	Yes
Localized Adiposity		1,157	0.04	1.019 (0.90–1.15)	7.6×10^{-1}	1.085 (0.96–1.22)	1.8×10^{-1}	–	–	Yes
Ulcerative Colitis		9,179	0.28	1.006 (0.97–1.05)	7.7×10^{-1}	0.970 (0.93–1.01)	1.4×10^{-1}	1.037 (0.96–1.12)	3.6×10^{-1}	No
Myeloproliferative Disease		5,971	0.18	1.007 (0.96–1.06)	7.7×10^{-1}	1.013 (0.97–1.06)	5.9×10^{-1}	1.019 (0.92–1.13)	7.1×10^{-1}	Yes
Ehlers Danlos Syndrome		1,626	0.05	0.986 (0.89–1.09)	7.8×10^{-1}	0.964 (0.86–1.08)	5.2×10^{-1}	–	–	Yes
Benign Male Genital Neoplasm		1,960	0.06	0.987 (0.90–1.08)	7.8×10^{-1}	1.153 (0.99–1.34)	6.3×10^{-2}	0.963 (0.82–1.13)	6.4×10^{-1}	No
Salivary Gland Disease		19,652	0.61	1.004 (0.98–1.03)	7.9×10^{-1}	1.023 (0.99–1.06)	1.8×10^{-1}	0.954 (0.91–1.00)	6.0×10^{-2}	Yes
Non-Specific Nasal Throat Disorder		9,029	0.28	1.006 (0.96–1.05)	7.9×10^{-1}	0.983 (0.94–1.03)	4.7×10^{-1}	1.084 (1.00–1.18)	5.3×10^{-2}	No
Graves Disease		4,543	0.14	0.992 (0.93–1.05)	8.0×10^{-1}	0.933 (0.88–0.99)	2.5×10^{-2}	1.040 (0.94–1.15)	4.6×10^{-1}	Yes
Lymphoid Leukemia		2,406	0.07	0.990 (0.92–1.07)	8.0×10^{-1}	1.031 (0.95–1.11)	4.4×10^{-1}	–	–	No
Myocardial Infarction		1,488	0.05	1.014 (0.91–1.13)	8.0×10^{-1}	1.007 (0.93–1.09)	8.6×10^{-1}	–	–	Yes
IgA Immunodeficiency		1,150	0.04	1.014 (0.90–1.14)	8.1×10^{-1}	1.052 (0.93–1.19)	4.2×10^{-1}	–	–	Yes
Brain Cancer		2,491	0.08	1.010 (0.93–1.10)	8.2×10^{-1}	0.995 (0.92–1.08)	9.0×10^{-1}	1.044 (0.87–1.25)	6.3×10^{-1}	No
Thyroid Cancer		907	0.03	0.985 (0.86–1.13)	8.2×10^{-1}	0.992 (0.88–1.12)	8.9×10^{-1}	–	–	Yes
Alveolar Disease		975	0.03	0.988 (0.88–1.11)	8.4×10^{-1}	0.928 (0.83–1.04)	2.0×10^{-1}	–	–	Yes
Psychogenic Somatoform Disorder		13,811	0.43	1.004 (0.97–1.04)	8.4×10^{-1}	1.009 (0.97–1.05)	6.1×10^{-1}	1.027 (0.95–1.11)	5.1×10^{-1}	Yes
Melanoma		1,636	0.05	0.991 (0.91–1.08)	8.4×10^{-1}	0.948 (0.84–1.07)	3.9×10^{-1}	–	–	Yes
Otosclerosis		775	0.02	1.014 (0.88–1.17)	8.5×10^{-1}	1.045 (0.87–1.25)	6.3×10^{-1}	–	–	Yes
Nephrotic Syndrome		1,272	0.04	0.988 (0.87–1.12)	8.5×10^{-1}	1.001 (0.89–1.12)	9.8×10^{-1}	–	–	No

Disease	<i>N</i>	Prev.%	BF OR (95% CI)	BF <i>P</i>	WF OR (95% CI)	WF <i>P</i>	Strict OR (95% CI)	Strict <i>P</i>	Agree
Non-Specific Autosomal Ab-normality	663	0.02	0.986 (0.85–1.15)	8.5×10^{-1}	1.059 (0.90–1.24)	4.9×10^{-1}	–	–	No
Long QT Syndrome	1,858	0.06	1.008 (0.92–1.10)	8.6×10^{-1}	1.022 (0.93–1.12)	6.4×10^{-1}	–	–	Yes
Acute Sinusitis	830,037	25.67	0.999 (0.99–1.01)	8.6×10^{-1}	0.965 (0.96–0.97)	2.6×10^{-42}	0.979 (0.97–0.99)	4.3×10^{-4}	Yes
Primary Hereditary Retinal Dystrophy	1,743	0.05	1.008 (0.92–1.10)	8.6×10^{-1}	0.962 (0.87–1.06)	4.4×10^{-1}	–	–	No
Dopa-Responsive Dystonia	561	0.02	1.014 (0.85–1.21)	8.7×10^{-1}	0.961 (0.79–1.17)	6.9×10^{-1}	–	–	No
Acute Glomerulonephritis	1,085	0.03	0.990 (0.87–1.12)	8.8×10^{-1}	1.065 (0.92–1.23)	3.9×10^{-1}	–	–	No
Sjogrens Syndrome	1,070	0.03	0.990 (0.87–1.12)	8.8×10^{-1}	0.902 (0.79–1.03)	1.1×10^{-1}	–	–	Yes
Eustachian Tube Disorder	104,296	3.23	1.001 (0.98–1.02)	9.0×10^{-1}	0.988 (0.97–1.00)	1.4×10^{-1}	1.037 (1.01–1.06)	6.9×10^{-3}	No
Connective Tissue Cancer	1,485	0.05	1.006 (0.91–1.12)	9.0×10^{-1}	0.988 (0.89–1.10)	8.3×10^{-1}	–	–	No
Unspecified Congenital Anomaly	5,062	0.16	0.997 (0.94–1.05)	9.1×10^{-1}	0.972 (0.91–1.04)	3.9×10^{-1}	0.973 (0.87–1.09)	6.4×10^{-1}	Yes
Bone Cancer	1,473	0.05	1.006 (0.91–1.12)	9.2×10^{-1}	1.029 (0.92–1.15)	6.2×10^{-1}	–	–	Yes
Diabetes Insipidus	883	0.03	1.007 (0.87–1.16)	9.2×10^{-1}	1.066 (0.93–1.22)	3.6×10^{-1}	–	–	Yes
Endocrine Cancer	912	0.03	1.006 (0.88–1.15)	9.3×10^{-1}	0.977 (0.84–1.14)	7.6×10^{-1}	–	–	No
Benign Oropharyngeal Neoplasm	10,268	0.32	0.998 (0.96–1.04)	9.4×10^{-1}	0.999 (0.95–1.05)	9.5×10^{-1}	0.998 (0.93–1.08)	9.5×10^{-1}	Yes
Neurofibromatosis	1,597	0.05	0.996 (0.90–1.11)	9.4×10^{-1}	1.069 (0.97–1.18)	2.0×10^{-1}	–	–	No
Osteoporosis	4,734	0.15	0.998 (0.94–1.06)	9.5×10^{-1}	0.975 (0.93–1.03)	3.5×10^{-1}	1.029 (0.92–1.15)	6.2×10^{-1}	Yes
Acute Upper Respiratory Infection	1,228,989	38.01	1.000 (0.99–1.01)	9.5×10^{-1}	0.997 (0.99–1.00)	1.5×10^{-1}	0.994 (0.98–1.00)	2.0×10^{-1}	Yes
Hereditary Corneal Dystrophy	1,487	0.05	0.997 (0.90–1.10)	9.5×10^{-1}	1.024 (0.92–1.14)	6.7×10^{-1}	–	–	No
Purpura Other Hemorrhagic Conditions	5,935	0.18	1.001 (0.95–1.05)	9.7×10^{-1}	1.007 (0.95–1.07)	8.0×10^{-1}	1.062 (0.96–1.17)	2.4×10^{-1}	Yes
Non-Specific Leukemia	1,398	0.04	0.999 (0.90–1.11)	9.9×10^{-1}	1.114 (0.99–1.25)	6.7×10^{-2}	–	–	No

Supplementary Table 9: **ICD code definitions for all 569 diseases.** Each disease phenotype is defined by one or more ICD-9-CM and ICD-10-CM codes. A disease is considered present if ≥ 1 qualifying code appears in the individual’s diagnostic history. Truncated code lists are indicated by (+*n*) denoting additional codes not shown; the complete mapping is provided in the analysis code.

Disease	ICD-9-CM codes	ICD-10-CM codes
ADHD	314, 3140, 31400, 31401, 3141, 3142, 3148, 3149	F909, F908
Abnormal Spine Curvature	737, 7370, 7371, 73710, 73712, 73719, 7372, 73720 (+17)	M438X9, M4120, M419, Q76428, M4010, M4100 (+9)
Acne	7060, 7061	L702, L708
Acquired Coagulation Defect	2866, 2867, 2869	D65, D684, D689
Acquired Hemolytic Anemias	283, 2831, 28310, 28311, 28319, 2839	D593, D599, D594
Acquired Hypothyroidism	244, 2442, 2448, 2449	E032, E038, E039
Acquired Limb Deformities	735, 736, 7368, 73689, 7369	M21969, M2190
Acquired Other Myopathies	35924, 3593, 3594, 3595, 3596, 3597, 35971, 35979 (+4)	G729, G7249, G7241, G722, G723, G737 (+3)
Acquired Retinal Defects	361, 3610, 36100, 36101, 36102, 36103, 36104, 36105 (+78)	H35729, H31019, H33049, H35459, H33039, H34219 (+57)
Acquired Visual Disturbances	36021, 3670, 3671, 3672, 36720, 36721, 36722, 3673 (+98)	H5359, H5352, H5410, H540, H4423, H53459 (+51)
Acrocephalosyndactyly	75555	Q870
Acute Bronchitis	4644, 466, 4660, 4661, 46611, 46619, 490	J40, J050, J218, J210, J209
Acute Glomerulonephritis	5800, 5804, 5808, 58081, 58089, 5809	N013, N009, N08, N008, N003
Acute Renal Failure	5845, 5846, 5847, 5848, 5849	N171, N172, N170, N178, N179
Acute Sinusitis	461, 4610, 4611, 4612, 4613, 4618, 4619	J0190, J0180, J0130, J0110, J0100, J0140 (+1)
Acute Upper Respiratory Infection	0320, 0321, 0322, 0323, 0340, 460, 463, 4643 (+9)	J060, A3689, J0390, A362, A360, A361 (+7)
Addisons Disease	2554, 25541, 25542, 2555	E2749, E2740
Adjustment Disorder	309, 3090, 3091, 3092, 30922, 30923, 30924, 30928 (+8)	F4324, F948, F4322, F4323, F4320, F4321 (+2)
Adrenogenital Disorder	2552	E259
Allergic Rhinitis	477, 4770, 4772, 4778, 4779	J309, J301, J3081, J3089
Alopecia	7040, 70400, 70401, 70402, 70409	L668, L638, L659, L650
Alpha-1-Antitrypsin Deficiency	2734	E8801
Alveolar Disease	516, 5160, 5161, 5162, 5163, 51630, 51631, 51632 (+7)	J8403, J842, J849, J8409, J8402, J8401 (+7)

Disease	ICD-9-CM codes	ICD-10-CM codes
Alzheimers Disease	2901, 29010, 29011, 29012, 29013, 3310, 33100	F05, G309, F0390
Amino Acid Transport Disorder	270	
Androgen Insensitivity Syndrome	25951	E3451
Aneurysm	4141, 41410, 41411, 41412, 41419, 4373, 441, 4410 (+29)	I716, I724, I722, I2541, I720, I721 (+21)
Aniridia	74345	Q131
Anophthalmia Mircophthalmia	74300, 74303, 74306, 7431, 74310, 74311, 74312	Q111, Q110, Q112
Anterior Eye Anomaly	7432, 74320, 74321, 74322, 74341, 74342, 74343, 74344	Q133, Q150, Q134
Anxiety Phobic Disorder	29384, 300, 3000, 30000, 30001, 30002, 30009, 30010 (+16)	F064, F488, F409, F458, F938, F449 (+9)
Aplastic Anemia	284, 2840, 28409, 2848, 28481, 28489, 2849	D619, D6109, D6189, D609
Appendiceal Disease	540, 5400, 5401, 5409, 541, 5410, 542, 543 (+2)	K37, K36, K3589, K380, K389, K353 (+1)
Aromatic Amino Acid Metabolism Di..	2702	E708
Arterial Dissection	4432, 44321, 44322, 44323, 44324, 44329	I7771, I7774, I7773, I7772, I7779
Arterial Embolism Thrombosis	444, 4440, 4441, 4442, 44421, 44422, 4448, 44481 (+2)	I745, I742, I743, I748, I749, I7411
Arthropod-Borne Diseases	084, 0840, 0841, 0842, 0843, 0844, 0845, 0846 (+26)	B509, B508, A449, B600, B608, B54 (+17)
Asthma	493, 4930, 49300, 49301, 49302, 4931, 49310, 49311 (+12)	J449, J45991, J45990, J440, J441, J4520 (+5)
Atherosclerosis	41181, 4140, 41400, 41401, 41402, 41403, 41404, 41405 (+29)	I2583, I2582, I2584, I70269, I70209, I70229 (+20)
Atopic Contact Dermatitis	37332, 691, 6918, 692, 6920, 6921, 6922, 6923 (+21)	L242, L240, L241, L2381, L2089, L251 (+18)
Autism	2990, 29900, 29901	F840
Autoimmune Lymphoproliferative Sy..	27941	D8982
Autoimmune Polyglandular Disorder	2581	E310
Autonomic System Disorder	337, 3370, 33700, 33701, 33709, 3371, 3373, 3379	G9009, G909, G990, G904, G9001
Balanced Translocation	7584	Q950

Disease	ICD-9-CM codes	ICD-10-CM codes
Bartters Syndrome	25513	E2681
Behcets Syndrome	1361, 7112, 71120, 71121, 71122, 71123, 71124, 71125 (+5)	M810, M352
Benign Bone Connective Tissue Neo..	213, 2130, 2131, 2132, 2133, 2134, 2135, 2136 (+13)	D215, D1610, D1630, D1620, D214, D1600 (+12)
Benign Breast Neoplasm	217, 6102, 6103, 6104, 6108, 6109	N6089, N6039, N6099, N6029, N6049, D241
Benign CNS Neoplasm	225, 2250, 2251, 2252, 2253, 2254, 2258, 2259	D320, D329, D339, D321, D337, D334 (+2)
Benign Colon Neoplasm	2095, 20950, 20951, 20952, 20953, 20954, 20955, 20956 (+4)	D3A029, D3A024, D3A025, D3A026, D3A020, D3A021 (+5)
Benign Digestive Neoplasm	211, 2110, 2111, 2112, 2115, 2116, 2117, 2118 (+1)	D1339, K317, D201, D139, D130, D131 (+3)
Benign Endocrine Neoplasm	227, 2270, 2271, 2273, 2274, 2275, 2276, 2278 (+1)	D359, D354, D355, D356, D357, D351 (+2)
Benign Eye Neoplasm	224, 2240, 2241, 2242, 2243, 2244, 2245, 2246 (+3)	D3190, D3160, D3140, D3150, D3100, D3110 (+2)
Benign Female Genital Neoplasm	221, 2210, 2211, 2212, 2218, 2219, 6212, 6226 (+7)	D282, D287, N906, N901, N900, N842 (+8)
Benign Intrathoracic Neoplasm	212, 2120, 2121, 2122, 2123, 2124, 2125, 2126 (+3)	D159, D152, D150, D151, D157, D1430 (+4)
Benign Male Genital Neoplasm	222, 2220, 2221, 2222, 2223, 2224, 2228, 2229	D2920, D299, D298, D294, D2930, D291 (+1)
Benign Oropharyngeal Neoplasm	210, 2100, 2101, 2102, 2103, 2104, 2105, 2106 (+3)	D101, D100, D102, D105, D104, D107 (+4)
Benign Ovarian Neoplasm	220	D279
Benign Prostatic Hyperplasia	600, 6000, 60000, 60001, 6001, 60010, 60011, 6002 (+7)	N402, N403, N400, N401, N423, N4283
Benign Skin Neoplasm	216, 2160, 2161, 2162, 2163, 2164, 2165, 2166 (+3)	D2310, D2339, D239, D235, D234, D2320 (+3)
Benign Thyroid Neoplasm	226	D34
Benign Urinary Neoplasm	223, 2230, 2231, 2232, 2233, 2238, 22381, 22389 (+1)	D303, D3020, D304, D3000, D3010, D309 (+1)
Benign Uterine Neoplasm	218, 2180, 2181, 2182, 2189, 219, 2190, 2191 (+9)	D259, D250, D260, D261, D267, D251 (+5)
Biliary Tract Disease	03284, 5716, 574, 5740, 57400, 57401, 5741, 57410 (+51)	K810, K834, K819, K838, K839, K812 (+37)
Bipolar Disorder	2960, 29600, 29601, 29602, 29603, 29604, 29605, 29606 (+39)	F308, F304, F303, F328, F3110, F3111 (+26)
Bladder Cancer	188, 1880, 1881, 1882, 1883, 1884, 1885, 1886 (+6)	C678, C679, D090, C672, C673, C670 (+7)
Bladder Disorder	596, 5960, 5961, 5962, 5963, 5964, 5965, 59651 (+9)	N3289, N3281, N312, N318, N319, N329 (+5)
Bone Cancer	1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707 (+2)	C4020, C414, C412, C413, C410, C411 (+4)

Disease	ICD-9-CM codes	ICD-10-CM codes
Bone Infection	730, 7308, 73080, 73081, 73082, 73083, 73084, 73085 (+15)	M9080, M869, M90859, M90849, M9089, M9088 (+6)
Brain Cancer	191, 1910, 1911, 1912, 1913, 1914, 1915, 1916 (+3)	C715, C714, C717, C716, C711, C710 (+4)
Brain Damage	310, 3100, 3101, 3102, 3108, 3109, 3481, 3482 (+3)	F070, G9389, G931, G932, G935, F0781 (+2)
Branched Chain Amino Acid Metabol..	2703	E712
Breast Cancer	174, 1740, 1741, 1742, 1743, 1744, 1745, 1746 (+6)	C50619, C50319, D493, D4860, C50119, C50019 (+6)
Breast Disorder	611, 6110, 6111, 6112, 6113, 6114, 6115, 6116 (+15)	N6459, N63, N62, N61, N644, N6489 (+7)
CNS Cancer	192, 1920, 1921, 1922, 1923, 1928, 1929, 2375 (+2)	D434, C709, C729, D496, C700, C701 (+4)
CNS Infection	0480, 3240, 3241, 3249, 326	G060, G062, G061, G09
Carbuncle Furuncle	680, 6800, 6801, 6802, 6803, 6804, 6805, 6806 (+3)	L02439, L0213, L02639, L02239, L0293, L02838 (+3)
Carcinoid Neoplasm	2090, 20901, 20902, 20903, 20911, 20912, 20913, 20914 (+18)	D3A011, D3A010, D3A012, D3A019, C7A025, C7A024 (+17)
Carcinoid Syndrome	2592	E340
Cardiac Conduction Disorder	4260, 4261, 42610, 42611, 42612, 42613, 4262, 4263 (+13)	I4510, I4469, I4589, I442, I447, I459 (+8)
Cardiac Congenital Anomaly	745, 7450, 7451, 74510, 74511, 74512, 74519, 7452 (+41)	P293, Q289, Q288, Q243, Q242, Q245 (+31)
Cardiac Dysrhythmia	4270, 4271, 4272, 4273, 42731, 42732, 4274, 42741 (+10)	I499, I4949, I4892, I4891, I4902, I491 (+7)
Cardiomyopathy	4250, 4251, 4252, 4253, 4254, 4257, 4258, 4259	I428, I423, I43, I427, I424
Carditis	03282, 0364, 03640, 03641, 03642, 03643, 0742, 07420 (+45)	I401, I400, I409, I408, B3323, I330 (+30)
Cataplexy Narcolepsy	347, 3470, 34700, 34701, 3471, 34710, 34711	G47411, G47419, G47429, G47421
Cataract	366, 3660, 36600, 36601, 36602, 36603, 36604, 36609 (+36)	H28, E1336, H2520, H26239, H26219, H26059 (+24)
Celiac Disease	579	K900
Cellulitis	0201, 0210, 0220, 0311, 03285, 035, 0390, 681 (+20)	L03049, L03029, A363, L03329, L0391, L03212 (+12)
Cerebral Cysts	348	G930

Disease	ICD-9-CM codes	ICD-10-CM codes
Cerebral Lipidoses	3301	E754
Cerebrovascular Disease	2904, 29040, 29041, 29042, 29043, 3466, 34660, 34661 (+92)	I69952, I6789, I69954, I69959, I6340, I6509 (+56)
Cervical Cancer	180, 1800, 1801, 1808, 1809, 2331, 6221, 62210 (+2)	C531, C530, C539, C538, N871, N870 (+2)
Charcot Marie Tooth Disease	3561	G600
Childhood Disintegrative Disorder	2991, 29910, 29911	F843
Chondrocalcinosis	7121, 71210, 71211, 71212, 71213, 71214, 71215, 71216 (+25)	M11869, M11249, M11279, M11879, M11229, M11819 (+14)
Chondrodystrophy	7564	Q784
Choroidal Disorders	363, 3634, 36340, 36341, 36342, 36343, 3635, 36350 (+17)	H31429, H31109, H31419, H318, H31409, H31129 (+11)
Chronic Glomerulonephritis	5820, 5821, 5822, 5824, 5828, 58281, 58289, 5829	N033, N032, N035, N039, N038, N08
Chronic Kidney Disease	584, 585, 5850, 5851, 5852, 5853, 5854, 5855 (+6)	N250, N189, N186, N185, N19, N183 (+4)
Chronic Liver Disease	571, 5715, 5718, 5719, 572, 5720, 5721, 5722 (+2)	K7469, K769, K751, K7290, K7291, K7689 (+2)
Chronic Progressive External Opht..	37872	H5089
Chronic Pruritus	698, 6980, 6981, 6988, 6989	L299, L298, L293, L290
Chronic Sinusitis	473, 4730, 4731, 4732, 4733, 4738, 4739	J329, J328, J323, J322, J321, J320
Chronic Tonsillitis Adenoiditis	474, 4740, 47400, 47401, 47402, 4741, 47410, 47411 (+6)	J352, J353, J351, J3503, J3502, J3501 (+3)
Chronic Upper Respiratory Infection	472, 4720, 4721, 4722	J312, J310, J311
Chronic Venous Hypertension	4593, 45930, 45931, 45932, 45933, 45939	I87399, I87319, I87329, I87309, I87339
Circulating Enzyme Deficiency	2776	D841
Colorectal Cancer	153, 1530, 1531, 1532, 1533, 1534, 1535, 1536 (+17)	C184, C260, C20, C7A026, C180, C181 (+15)
Common Variable Immunodeficiency	27906	D839
Complex Regional Pain Syndrome	3372, 33720, 33721, 33722, 33729, 3380, 3545, 3557 (+2)	G90519, G5780, G5770, G90529, G9059, G890 (+1)
Conduct Disorder	312, 3120, 31200, 31201, 31202, 31203, 3121, 31210 (+15)	F911, F918, F919, F912, F913

Disease	ICD-9-CM codes	ICD-10-CM codes
Congenital Anomaly of Skull Neck	7436, 74361, 74363, 74364, 74365, 74366, 74369, 744 (+35)	Q188, Q189, Q186, Q187, Q184, Q185 (+24)
Congenital Aphakia	74335	Q123
Congenital Breast Anomaly	61182, 7576, 7787	P834, Q838, N6482
Congenital Ectodermal Dysplasia	75731	Q824
Congenital Hair Anomaly	7575	Q846
Congenital Hypogammaglobulinemia	27904	D800
Congenital Hypothyroidism	243	E009
Congenital Nail Anomaly	7574	Q842
Congenital Neutropenia	28801	D700
Congenital Pigmentary Anomaly	75733	Q822
Congenital Spine Anomaly	74251, 74253, 75610, 75611, 75612, 75613, 75614, 75615 (+2)	Q762, Q7649, Q062, Q064, Q765
Conjunctival Disorders	37234, 3724, 37240, 37241, 37242, 37243, 37244, 37245 (+23)	H11059, H11139, H11119, H1189, H10819, H11039 (+20)
Connective Tissue Cancer	170, 171, 1710, 1712, 1713, 1714, 1715, 1716 (+3)	C4910, C4920, C498, C499, C496, C494 (+3)
Connective Tissue Infection	56731, 7105, 7280, 72886	M726, K6812, M60009, M358
Copper Metabolism Disorder	2751	E8309
Corneal Disorders	3700, 37000, 37001, 37002, 37003, 37004, 37005, 37006 (+67)	H18899, H16299, A1859, H1713, H18629, H1870 (+55)
Corns Callosities	700	L84
Cranial Nerve Disorder	350, 3501, 3502, 3508, 3509, 351, 3510, 3511 (+19)	G522, G523, G520, G521, G500, G527 (+14)
Cri-Du-Chat Syndrome	75831	Q934
Crohns Disease	5550, 5551, 5552, 5559, 56089	K5000, K50011, K50012, K50013, K50014, K50018 (+22)
Cushings Syndrome	255	
Cyclic Neutropenia	28802	D704
Cystic Fibrosis	2770, 27700, 27701, 27702, 27703, 27709	E8411, E848, E8419, E849, E840
Cystitis Urethritis	595, 5950, 5951, 5952, 5953, 59581, 597, 5970 (+3)	N340, N342, N3081, N3031, N3011, N3001 (+1)
Deep Vein Thrombosis	41511, 452, 453, 4530, 4531, 4532, 4533, 4534 (+27)	I82599, I82290, I82291, I81, I825Z9, I824Z9 (+24)
Degenerative Dementia	3311, 33111, 33119, 3312, 33182	G3101, G311, G3183, G3109

Disease	ICD-9-CM codes	ICD-10-CM codes
Dejerine Sottas Disease	356	
Depression	2962, 29620, 29621, 29622, 29623, 29624, 29625, 29626 (+10)	F325, F324, F330, F331, F332, F333 (+9)
Dermatitis Herpetiformis	6940, 6941, 6942, 6943	L130, L122, L401, L131
Dermatomyositis Polymyositis	7103, 7104	M3320, M3390
Developmental Delay	315, 3154, 3155, 3158, 3159	F89, F88, F82
Deviated Nasal Septum	470, 4780	J343, J342
Diabetes Insipidus	2535	E232
Diamond-Blackfan Anemia	28401	D6101
Digeorges Syndrome	27911	D821
Disease of the Female Reproductiv..	256, 2560, 2561, 2564, 2568, 2569, 6100, 6101 (+166)	N770, N771, N6009, N930, N839, N831 (+108)
Disease of the Male Reproductive ..	257, 2570, 2572, 2578, 2579, 30272, 6013, 6014 (+53)	N5314, N5312, N4830, N433, N432, N431 (+38)
Disorder of the Vestibular System	386, 3860, 38600, 38601, 38602, 38603, 38604, 3861 (+6)	H8149, H81319, H8113, H81399, H8123, H8393 (+1)
Disorders of Fatty Acid Oxidation	27785	E71318
Disorders of Iris Ciliary Body	364, 3644, 36441, 36442, 3645, 36451, 36452, 36453 (+25)	H21279, H2189, H21569, H21259, H2182, H21549 (+21)
Disorders of Mitochondrial Metabo..	27787	H49819
Disorders of Straight Chain Amino..	2707	E728
Disorders of Urea Cycle Metabolism	2706	E7229
Dissociative Disorder	30012, 30013, 30014, 30015, 3006	F449, F4481, F481, F440, F441
Diverticulosis Diverticulitis	562, 5620, 56200, 56201, 56202, 56203, 5621, 56210 (+3)	K5733, K5732, K5731, K5730, K5711, K5710 (+2)
Dopa-Responsive Dystonia	3336	G241
Downs Syndrome	758	
Dwarfism of Unknown Etiology	2594	E343
Dyschromia	7090, 70900, 70901, 70909	L819, L818, L80

Disease	ICD-9-CM codes	ICD-10-CM codes
Ear Infection	0552, 3801, 38010, 38011, 38012, 38013, 38014, 38015 (+48)	H95139, H70899, H70219, H60599, H66019, H679 (+31)
Eating Disorder	3071, 3075, 30750, 30751, 30752, 30753, 30754, 30759	F5000, F509, F508, F9829, F502, F983 (+1)
Edwards Syndrome	7582	Q913
Ehlers Danlos Syndrome	75683	Q796
Electrolyte Acid-Base Balance Dis..	27541, 27542, 2755, 2760, 2761, 2762, 2763, 2764 (+5)	E872, E873, E870, E871, E876, E874 (+6)
Ellis Van Creveld Syndrome	75655	Q776
Emphysema COPD	491, 4910, 4911, 4912, 49120, 49121, 49122, 4918 (+10)	J8489, J449, J479, J440, J441, J471 (+6)
Encephalitis	0361, 0462, 0498, 0499, 0520, 0543, 0550, 05601 (+50)	A833, G0489, B262, G0481, B1009, G0402 (+32)
Endocrine Cancer	194, 1940, 1941, 1943, 1944, 1945, 1946, 1948 (+1)	C7490, C759, C758, C750, C753, C752 (+2)
Epidermolysis Bullosa	7573, 75739	Q828
Epilepsy Related Disorders	345, 3450, 34500, 34501, 3451, 34510, 34511, 3452 (+19)	G40824, G40119, G40109, G40209, G40804, G40919 (+9)
Erythematous Disorder	695, 6955, 69550, 69551, 69552, 69553, 69554, 69555 (+4)	L499, L498, L497, L496, L495, L494 (+4)
Erythromelalgia	44382	I7381
Escherichia Coli Infection	0414, 04141, 04142, 04143, 04149	B9621, B9629, B9622, B9623
Esophageal Cancer	150, 1500, 1501, 1502, 1503, 1504, 1505, 1508 (+2)	C153, C155, C154, C159, C158, D001
Esophageal Disease	4560, 4561, 4562, 45620, 45621, 530, 5300, 53011 (+13)	J860, K219, K2270, K210, K200, K225 (+10)
Esophagitis	5301, 53010, 53012, 53019	K209, K208
Eustachian Tube Disorder	381, 3815, 38150, 38151, 38152, 3816, 38160, 38161 (+7)	H68019, H68129, H68139, H6900, H68109, H68119 (+4)
External Ear Disorders	380, 3800, 38000, 38001, 38002, 38003, 38021, 3803 (+22)	H61819, H61899, H9503, H61329, H7123, H61009 (+17)
Extrapyramidal Abnormal Movement ..	3330, 3331, 3332, 3333, 3335, 33371, 33372, 33379 (+12)	G245, G249, G803, G238, G2401, G255 (+12)
Eye Cancer	190, 1900, 1901, 1902, 1903, 1904, 1905, 1906 (+4)	C6900, C6910, C6930, C6980, D0920, C6940 (+4)

Disease	ICD-9-CM codes	ICD-10-CM codes
Eye Infection	0213, 03281, 0532, 05320, 05321, 05322, 05329, 0544 (+67)	H1033, B0581, H1013, H20039, H44129, A211 (+51)
Eye Inflammation	3600, 36000, 36001, 36002, 36003, 36004, 3601, 36011 (+94)	H30139, H20019, H30129, H0019, H3093, H44029 (+69)
Eyelid Disorders	374, 3742, 37420, 37421, 37422, 37423, 3744, 37441 (+20)	H02219, H02719, H029, H02729, H02529, H0279 (+15)
Familial Adenomatous Polyposis		V1851
Familial Dysautonomia Related Con..	7428	Q078
Familial Mediterranean Fever	27731	E850
Fasciitis	72871, 7294	M722, M729
Female Genital Cancer	1840, 1841, 1842, 1843, 1844, 2333, 23330, 23331 (+5)	D3910, C510, C52, D0739, D399, C519 (+6)
Female Genital Congenital Anomaly	7520, 7521, 75210, 75211, 75219, 7522, 7523, 75231 (+16)	Q51810, Q5039, Q5212, Q5211, Q51818, Q506 (+13)
Food Allergy	4771, 5583, 6925, 6931	K522, J305, L254, L272
Fragile X Syndrome	75983	Q992
Friedreichs Ataxia	334	
Functional Digestive Disorder	536, 5360, 5361, 5363, 5368, 5369, 537, 5370 (+36)	K5909, K30, K5900, K5901, K5902, K562 (+26)
Fungal Infection	110, 1100, 1101, 1102, 1103, 1104, 1105, 1106 (+52)	B383, B3783, B369, B368, B389, B363 (+39)
G6PD	2822	D551
Galactosemia	2711	E7421
Gastritis Duodenitis	535, 5350, 53500, 53501, 5351, 53510, 53511, 5352 (+15)	K5281, K2901, K2900, K2950, K2951, K2961 (+6)
Gastrointestinal Infection	001, 0010, 0011, 0019, 002, 0020, 0021, 0022 (+79)	A038, A039, A032, A033, A030, A031 (+54)
Gastrointestinal Ulcer	5302, 53020, 53021, 531, 5310, 53100, 53101, 5311 (+110)	K2211, K2210, K257, K269, K633, K259 (+36)
General Bacterial Infection	020, 0200, 0208, 0209, 021, 0218, 0219, 022 (+67)	B471, A250, A391, A259, A3790, A230 (+47)
General Cerebral Degeneration	3316, 3317, 3318, 33181, 33189, 3319	G3185, G319, G94, G937, G3189
General Dementia	290, 2900, 29000, 2902, 29020, 29021, 2903, 2908 (+9)	F0391, F0390, F05, F04, F0281, F0280

Disease	ICD-9-CM codes	ICD-10-CM codes
General Ear Disorder	388, 38811, 3886, 38860, 38861, 38869, 3887, 38870 (+4)	G960, H918X9, H9393, H9210, H9209, H9220 (+1)
General Hypertension	401, 4010, 4011, 4019, 402, 4020, 40200, 40201 (+43)	I674, I119, I10, I120, I132, I130 (+6)
General Osteochondropathy	732, 7320, 7321, 7322, 7323, 7324, 7325, 7326 (+3)	M928, M4200, M93003, M9320, M9250, M9390 (+4)
General Paralysis	344, 3440, 34400, 34401, 34402, 34403, 34404, 34409 (+17)	G839, G830, G8252, G8251, G8250, G834 (+12)
General Spondylosis Spine Disorder	721, 7210, 72100, 7212, 7213, 7215, 7216, 7217 (+52)	M5137, M5135, M436, M5382, M5402, M5030 (+28)
General Thrombocytopenia	2873, 28730, 28731, 28732, 28739, 2874, 28741, 28749 (+1)	D6951, D6941, D6959, D6949, D693, D696
General Viral Infection	050, 0500, 0501, 0502, 0509, 051, 0510, 05101 (+115)	B269, B0809, A9231, B263, B260, B0589 (+73)
Generalized Digestive Cancer	158, 1580, 1588, 1589, 159, 1591, 1598, 1599 (+5)	C261, C269, C488, D019, C481, C480 (+4)
Generalized Lipidoses	2727, 3302	E771, G9389
Genetic Anomolies of Leukocytes	2882	D720
Gestational Pregnancy Related Dis..	04041, 619, 6190, 6191, 6192, 6198, 6199, 6206 (+1497)	O731, O730, P0089, O4100X0, O1403, O900 (+598)
Glaucoma	365, 3650, 36500, 36501, 36502, 36503, 36504, 36505 (+45)	H402290, H401290, H40219, H4089, H4020X4, H40239 (+23)
Globe Disorders	360, 3602, 36020, 36023, 36024, 36029, 3604, 36040 (+8)	H44829, H44819, H02739, H44529, H44539, H449 (+7)
Glucocorticoid-Remediable Al-doste..	25511	E2602
Glycogenesis	271	
Goiter	240, 2400, 2409, 241, 2410, 2411, 2419, 2422 (+2)	E049, E0521, E0520, E042, E041, E040
Gout Related Crystal Arthropathies	274, 2740, 27400, 27401, 27402, 27403, 2741, 27410 (+29)	M11869, M11879, M119, M1180, M1000, M11819 (+12)
Graves Disease	2420, 24200, 24201	E0501, E0500
Growth Hormone Deficiency	2533	E230
HIV	042, 0420, 0421, 0422, 0429, 043, 0430, 0431 (+7)	B20, B9735
Haemophilia Related Diseases	2860, 2861, 2862, 2863, 2864	D67, D66, D682, D680, D681

Disease	ICD-9-CM codes	ICD-10-CM codes
Hair Related Disease	704, 7042, 7043, 7048, 7049	L738, L739, L671, L678
Hearing Loss	3880, 38800, 38801, 38802, 3881, 38810, 38812, 3882 (+31)	H913, H9113, H900, H908, H905, H918X9 (+12)
Helicobacter Pylori Infection	4186	
Hemangioma Lymphangioma	228, 2280, 22800, 22801, 22802, 22803, 22804, 22809 (+1)	D1802, D1803, D1800, D1801, D1809, D181
Hemiplegia	342, 3420, 34200, 34201, 34202, 3421, 34210, 34211 (+9)	G8194, G8102, G8100, G8190, G8192, G8104 (+3)
Hepatobiliary Cancer	155, 1550, 1551, 1552, 156, 1560, 1561, 1562 (+3)	C23, C249, C248, C229, C228, C241 (+3)
Hepatobiliary Congenital Anomaly	7516, 75160, 75161, 75169, 7517	Q447, Q443, Q453
Hereditary Blepharophimosis	74362	Q103
Hereditary Breast Cancer		V8401, Z1501
Hereditary Color Blindness	36851, 36852, 36853, 36854	H5354, H5355, H5353, H5351
Hereditary Corneal Dystrophy	37150, 37151, 37152, 37153, 37154, 37155, 37156, 37157 (+1)	H1851, H1850, H1853, H1852, H1855, H1854 (+1)
Hereditary Dental Anomaly	5200, 5201, 5202, 5204, 5205	K005, K004, K001, K000, K002
Hereditary Elliptocytosis	2821	D581
Hereditary Face Skull Anomalies	756	
Hereditary Fructose Intolerance	2712	E7412
Hereditary Harartoses	7596	Q858
Hereditary Hemochromatosis	27501	E83110
Hereditary Hemoglobin Disease	28241, 28242, 2825, 2826, 28260, 28261, 28262, 28263 (+3)	D57819, D571, D573, D5720, D57419, D5780 (+3)
Hereditary Hemorrhagic Telangiect..	448	I780
Hereditary Lymphadema	757	
Hereditary Muscular Dystrophy	359	
Hereditary Night Blindness	36861	H5363
Hereditary Polycythemia Vera	2896	D750
Hereditary Progressive Muscular Dy..	3591	G710
Hereditary Sensory Neuropathy	3562	G600
Hereditary Spastic Paraplegia	3341	G114

Disease	ICD-9-CM codes	ICD-10-CM codes
Hereditary Spherocytosis	282	D580
Hereditary Stomatocytosis	2828	D588
Hereditary Thrombocytopenic Purpura	28733	D6942
Hernia	550, 5500, 55000, 55001, 55002, 55003, 5501, 55010 (+50)	K4091, K4090, K4190, K4191, K4141, K421 (+36)
Herpes Simplex	054, 0540, 0541, 05410, 05411, 05412, 05413, 05419 (+18)	B002, B1081, B1082, A6001, A6004, B0820 (+11)
Herpes Zoster	053, 0531, 05310, 05311, 05312, 05313, 05314, 05319 (+5)	B028, B029, B0223, B0222, B0221, B0224 (+1)
Hirschsprungs Disease	7513	Q431
Hirsutism	7041	L680, L689
Histidinemia	2705	E7040
Hodgkins Disease	201, 2010, 20100, 20101, 20102, 20103, 20104, 20105 (+73)	C8129, C8128, C8141, C8174, C8146, C8145 (+48)
Homocystinuria	2704	E7219
Huntingtons Chorea	3334	G10
Hyper IgM Immunodeficiency	27905	D805
Hyperaldosteronism	25510, 25512, 25514	E261, E2601, E269
Hyperalimentation	2788	E678
Hyperchylomicronemia	2723	E783
Hypotension	458, 4580, 4581, 4582, 45821, 45829, 4588, 4589	I959, I9581, I951, I953, I9589
Hypotony of the Eye	3603, 36030, 36031, 36032, 36033, 36034, 36042	H44439, H44519, H44419, H44449, H4440, H44429
IBS	5641	K58, K580, K581, K582, K588, K580
IBS Crohns Disease	5641	K58, K580, K581, K582, K588, K580 (+5)
Ichthyosis Congenita	7571	Q809
IgA Immunodeficiency	27901	D802
IgM Immunodeficiency	27902	D804
Impulse Control Disorder	3123, 31230, 31231, 31232, 31233, 31234, 31235, 31239	F639, F631, F630, F632, F6389, F6381
Indeterminate Sex Pseudo-hermaphro..	7527	Q564

Disease	ICD-9-CM codes	ICD-10-CM codes
Infestation	132, 1320, 1321, 1322, 1323, 1329, 133, 1330 (+7)	B853, B852, B86, B882, B880, B851 (+5)
Inflammatory Spondylopathies	720, 7200, 7201, 7208, 72081, 72089, 7209, 7211 (+4)	M4714, M4600, M4710, M4712, M4690, M4680 (+3)
Inflammatory Toxic Neuropathy	357, 3570, 3571, 3573, 3574, 3577, 3578, 35781 (+3)	G6181, G622, G6189, G6281, G619, G63 (+1)
Influenza	487, 4870, 4871, 4878, 488, 4880, 48801, 48802 (+5)	J129, J111, J101, J1008, J09X2, J09X1 (+2)
Inner Ear Disorder	3863, 38630, 38631, 38632, 38633, 38634, 38635, 3864 (+15)	H832X9, H8319, H838X9, H8309
Intellectual Disability	317, 318, 3180, 3181, 3182, 319, 33183	G3184, F79, F70, F71, F72, F73
Intestinal Cancer	152, 1520, 1521, 1522, 1523, 1528, 1529, 20900 (+1)	C179, C178, C171, C7A019, C173, C172 (+2)
Intrathoracic Organ Cancer	164, 1640, 1641, 1642, 1643, 1648, 1649, 1951	C761, C382, C383, C380, C381, C37 (+1)
Iron Metabolism Disorder	27503, 27509	E8319, E83118, E83119
Jaw Disease	5240, 52400, 52401, 52402, 52403, 52404, 52405, 52406 (+39)	M2604, M2605, M2752, M2753, M2607, K0825 (+31)
Kaposi Sarcoma	176, 1760, 1761, 1762, 1763, 1764, 1765, 1768 (+1)	C4650, C467, C464, C463, C462, C461 (+2)
Kawasaki Disease	4461	M303
Keratosis	7020, 7021, 70211, 70219	L570, L820, L821
Kidney Cancer	189, 1890, 1891, 1892, 1893, 1894, 1898, 1899 (+1)	C659, C649, C689, C688, C681, C680 (+2)
Kidney Infection	590, 5900, 59000, 59001, 5901, 59010, 59011, 5902 (+5)	N12, N10, N16, N2885, N2886, N159 (+3)
Klinefelters Syndrome	7587	Q984
Klippel Feil Syndrome	75616	Q761
Lacrimal System Disorder	375, 3750, 37500, 37502, 37503, 3751, 37511, 37512 (+25)	H0469, H04029, H049, H04009, H04149, H04169 (+18)
Lactose Intolerance	2713	E7439
Larynx Vocal Chord Disorders	4783, 47830, 47831, 47832, 47833, 47834, 4784, 4785 (+7)	J381, J383, J385, J384, J387, J386 (+3)
Learning Disorder	3150, 31500, 31501, 3151, 3152	F8189, F810, F812, R480
Leukodystrophy	330	
Lichen	697, 6970, 6971, 6978, 6979	L441, L443, L661, L449
Lipodystrophy	2726	E881

Disease	ICD-9-CM codes	ICD-10-CM codes
Lipoma	214, 2140, 2141, 2142, 2143, 2144, 2148, 2149	D1739, D174, D1771, D176, D170, D1779 (+1)
Lipoprotein Deficiency	2725	E786
Localized Adiposity	2781	E65
Long QT Syndrome	42682	I4581
Lung Cancer	162, 1620, 1622, 1623, 1624, 1625, 1628, 1629 (+2)	C3430, C3410, C3400, C3490, C342, D0220 (+3)
Lupus Erythematosus	37334, 6954, 7100	L932, H01129, M3210
Lymphatic Disorder	2891, 2892, 2893, 457, 4570, 4571, 4572, 4578 (+3)	L049, I890, I972, I881, I880, I898 (+3)
Lymphoid Leukemia	2024, 20240, 20241, 20242, 20243, 20244, 20245, 20246 (+23)	C9112, C9111, C9110, C9100, C9101, C9102 (+8)
Lysosomal Storage Disease	2718, 2775	E771, E763
MENI	25801	E3121
MENIIA	25802	E3122
MENIIB	25803	E3123
Macular Degeneration	3625, 36250, 36251, 36252, 36253, 36254, 36256, 36257	H35369, H35379, H35349, H35359, H3530, H3531 (+1)
Male Breast Cancer	175, 1750, 1759	C50929, C50029
Male Genital Cancer	186, 1860, 1869, 187, 1871, 1872, 1873, 1874 (+10)	D0769, C6200, C6310, C6290, D400, C602 (+10)
Male Genital Congenital Anomaly	7525, 75251, 75252, 7526, 75261, 75262, 75263, 75264 (+2)	Q5522, Q640, Q544, Q549, Q5569, Q5564 (+2)
Malnutrition	260, 261, 262, 263, 2630, 2631, 2632, 2638 (+4)	E43, E40, E41, E46, E45, E638 (+3)
Marfan Syndrome	75982	Q8740
Medullary Cystic Kidney Disease	75316	Q615
Megaloblastic Anemia	2812, 2813	D531, D529
Melanoma	172, 1720, 1721, 1722, 1723, 1724, 1725, 1726 (+3)	D030, D0322, D034, D039, D038, D0339 (+4)
Meningitis	00321, 0360, 047, 0470, 0471, 0478, 0479, 0490 (+33)	B384, A2781, B261, A390, G01, G02 (+21)
Menopausal Disorder	627, 6271, 6272, 6273, 6274, 6278, 6279	N958, N950, N952, N959, N951
Menstrual Disorder	2563, 25631, 25639, 3464, 6214, 6252, 6253, 6254 (+11)	N938, N939, E2839, N915, N912, N943 (+10)
Metabolic Syndrome X	2777	E8881
Migraine	3390, 33900, 33901, 33902, 33903, 33904, 346, 3460 (+43)	G43919, G43509, G43401, G43819, G43911, G43501 (+33)
Mixed Hyperlipidemia	2722	E782

Disease	ICD-9-CM codes	ICD-10-CM codes
Mood Disorder	29383, 296, 2969, 29690, 29699	F39, F0630, F348
Motor Neuron Disease	33520, 33521, 33522, 33523, 33524, 33529, 3358, 3359	G1221, G129, G1229, G128, G1222
Mucopolysaccharidosis	3303	G939
Multiple Epiphyseal Dysplasia	75656	Q783
Multiple Myeloma	203, 2030, 20300, 20301, 20302, 2031, 20310, 20311 (+5)	C9001, C9000, C9010, C9002, C9011, C9030 (+3)
Multiple Sclerosis Other Demyelin..	340, 3410, 3411, 3419	G360, G379, G35, G375
Muscle Ligament Disorder	726, 7260, 7261, 72610, 72619, 7262, 7263, 72630 (+49)	M7650, M6210, M7500, M7030, M6110, M7750 (+35)
Myasthenia Gravis	3580, 35800, 35801	G7001, G7000
Mycobacterial Disease	0300, 0301, 0302, 0303, 0308, 0309, 031, 0312 (+2)	A305, A300, A301, A303, A312, A308 (+3)
Myeloid Leukemia	205, 2050, 20500, 20501, 20502, 2051, 20510, 20511 (+46)	C92Z1, C92Z0, C92Z2, C9391, C9390, C9392 (+30)
Myeloproliferative Disease	2071, 20710, 20711, 20712, 2384, 2385, 2386, 2387 (+11)	D47Z1, D469, D471, D470, D473, D472 (+7)
Myocardial Infarction	410, 4100, 41000, 41001, 41002, 4101, 41010, 41011 (+38)	I252, I510, I213, I230, I214, I2119 (+4)
Myoneural Disorders	358, 3581, 3582, 3588, 3589	G733, G7089, G709, G701
Myotonia Congenita	35922	G7112
Myotonic Muscular Dystrophy	35921	G7111
Nail Disease	703, 7030, 7038, 70380, 7039	L600, L608, L609
Neonatal Disease	343, 3430, 3431, 3432, 3433, 3434, 3438, 3439 (+86)	P721, P9689, P60, P808, P929, P7889 (+69)
Nephrotic Syndrome	5810, 5811, 5812, 5813, 5818, 58181, 58189, 5819	N022, N048, N049, N08, N043, N040 (+1)
Nerve Root Plexus Disorders	353, 3530, 3531, 3532, 3533, 3534, 3535, 3536 (+2)	G548, G549, G540, G541, G542, G543 (+3)
Neural Tube Defect	740, 7400, 7401, 7402, 741, 7410, 74100, 74101 (+9)	Q050, Q051, Q052, Q055, Q056, Q057 (+7)
Neurofibromatosis	2377, 23770, 23771, 23772, 23773, 23779	Q8509, Q8501, Q8503, Q8502, Q8500
Nezelofs Syndrome	27913	D814
Non-Hodgkins Lymphoma	200, 2000, 20000, 20001, 20002, 20003, 20004, 20005 (+143)	C8409, C96Z, C8446, C8447, C8299, C8298 (+94)

Disease	ICD-9-CM codes	ICD-10-CM codes
Non-Melanoma Skin Cancer	173, 1730, 17300, 17301, 17302, 17309, 1731, 17311 (+59)	C4A60, D0460, C44601, C4A4, C44621, C4489 (+49)
Non-Rheumatic Heart Disease	4240, 4241, 4242, 4243, 429, 4291, 4295, 4296 (+3)	I515, I511, I5189, I512, I519, I378 (+3)
Non-Specific Acquired Musculoskel..	3493, 34939, 717, 7170, 7171, 7172, 7173, 7174 (+119)	M2350, M2450, M205X9, M20029, M21159, M84459A (+80)
Non-Specific Anemia	2800, 2801, 2808, 2809, 2823, 2829, 2830, 2842 (+10)	D631, D630, D589, D500, D558, D638 (+9)
Non-Specific Arthritis	00323, 0261, 03682, 05671, 711, 7111, 7113, 71130 (+185)	M13139, M12169, M01X39, M12459, M1289, M1288 (+78)
Non-Specific Autosomal Abnormality	75839, 7585	Q928, Q9389
Non-Specific Cardiovascular Disease	2765, 27650, 27651, 27652, 428, 4280, 42800, 4281 (+26)	E869, E861, E860, I509, I501, I5032 (+18)
Non-Specific Chromosomal Anomaly	75881, 7589	Q999, Q998
Non-Specific Congenital Eye Anomaly	7433, 74330, 74331, 74332, 74333, 74334, 74336, 74337 (+17)	Q142, Q143, Q140, Q141, Q159, Q158 (+8)
Non-Specific Congenital Integument..	7572, 7578, 7579	Q849, Q848, Q828
Non-Specific Congenital Musculoskel..	7286, 7543, 75430, 75431, 75432, 75433, 75435, 7544 (+88)	Q7959, Q738, Q709, Q7951, Q7260, Q683 (+57)
Non-Specific Dental Disorder	521, 5210, 52100, 52101, 52102, 52103, 52104, 52105 (+82)	K0859, K0251, K0851, K0850, K08530, K0852 (+48)
Non-Specific Digestive Congenital..	750, 75024, 7503, 7504, 7505, 7506, 7507, 7508 (+8)	Q400, Q433, Q430, Q429, Q438, Q419 (+9)
Non-Specific Eye Disorders	3740, 37400, 37401, 37402, 37403, 37404, 37405, 3741 (+26)	H02129, H02049, H02109, H02009, H02149, H02029 (+20)
Non-Specific Gastrointestinal Dis..	5307, 53782, 53783, 53784, 558, 5584, 55841, 55842 (+20)	K5282, K5281, K529, K226, K632, K31811 (+17)
Non-Specific Genitourinary Congen..	589, 5890, 5891, 5899, 5930, 5937, 59370, 59371 (+29)	Q644, Q559, Q558, Q628, Q649, Q6212 (+23)
Non-Specific Gingival Peridental ..	5224, 5225, 5226, 5227, 523, 5230, 52300, 52301 (+23)	K056, K0532, K054, K045, K044, K047 (+13)

Disease	ICD-9-CM codes	ICD-10-CM codes
Non-Specific Hemoglobinopathies	28240, 28249, 2827	D569, D568, D582
Non-Specific Humoral Deficiency	27900, 27903, 27909	D801, D803, D807
Non-Specific Immune-Related Skin ..	6860, 68600, 68601, 68609, 694, 6944, 6945, 6946 (+24)	L52, L138, L282, L139, L281, M349 (+20)
Non-Specific Joint Disorder	718, 7180, 71800, 71801, 71802, 71803, 71804, 71805 (+178)	M24876, M2580, M25019, M25439, M24429, R29898 (+101)
Non-Specific Leukemia	20780, 20781, 20782, 208, 2080, 20800, 20801, 20802 (+16)	C9480, C9500, C9501, C9502, C9482, C9512 (+6)
Non-Specific Liver Disease	2774, 570, 5700, 5723, 573, 5730, 5734, 5738 (+1)	K769, K761, K762, K763, E807, K766 (+1)
Non-Specific Metabolic Disorder	2693, 2719, 2728, 2752, 2754, 27540, 27549, 2758 (+5)	E883, E749, E889, E8350, E8889, E8389 (+4)
Non-Specific Nasal Throat Disorder	471, 4710, 4711, 4718, 4719	J338, J339, J330, J331
Non-Specific Nephropathy	5830, 5831, 5832, 5834, 5836, 5837, 5838, 58381 (+6)	N055, N269, N172, N281, N171, N052 (+4)
Non-Specific Neurologic Congenita..	742, 7421, 7422, 7423, 7424, 7425, 74259, 7429	Q043, Q068, Q079, Q048, Q038, Q02
Non-Specific Osteopathy	72673, 72691, 731, 7311, 7312, 7313, 7318, 7332 (+20)	M8900, M87059, M8970, Q789, M9080, M8918 (+15)
Non-Specific Pain	3381, 33811, 33812, 33818, 33819, 3382, 33821, 33822 (+16)	M530, G8929, G8928, G894, M5417, G8921 (+14)
Non-Specific Peritoneal Disorder	568, 5688, 56881, 56882, 56889, 5689	K661, K689, R188, K669, K668
Non-Specific Prostate Disease	601, 6010, 6011, 6012, 602, 6020, 6021, 6022 (+2)	N429, N420, N421, N411, N410, N412 (+1)
Non-Specific Pulmonary Disorder	495, 4950, 4951, 4952, 4953, 4954, 4955, 4956 (+47)	J80, J82, J61, J60, J64, J983 (+35)
Non-Specific Skin Disorder	6959, 701, 7010, 7011, 7012, 7013, 7014, 7018 (+45)	L910, L89509, L919, L97509, L853, L89609 (+30)
Non-Specific Soft Tissue Disorder	729, 7290, 7297, 72971, 72972, 72973, 72979, 7299 (+4)	M79A19, M799, M79A29, M790, M79A9, M7989 (+3)
Non-Specific Sugar Metabolism Dis..	2510, 2511, 2512	E161, E162, E15
Non-Specific Thyroid Disorder	246, 2460, 2461, 2463, 2468, 2469	E070, E079, E0789, E071
Non-Specific Urinary Disorder	588, 5881, 5888, 58889, 5889, 591, 5910, 593 (+27)	R319, N343, N368, R312, R310, N99110 (+19)

Disease	ICD-9-CM codes	ICD-10-CM codes
Non-Specific Vascular Disease	447, 4470, 4472, 4473, 4474, 4475, 4478, 4479 (+20)	I781, K645, K644, I779, I773, I83029 (+13)
Non-Specified Cardiac Ischemia	411, 4111, 4118, 41189, 413, 4130, 4131, 4139 (+3)	I2589, I248, I201, I200, I259, I209 (+1)
OCD	3003	F42
Obesity	27800, 27801, 27803	E6601, E669, E662
Ocular Musculoskeletal Disorder	3743, 37430, 37431, 37432, 37433, 37434, 378, 3780 (+83)	H49889, H57059, H5008, H5042, H5043, H5040 (+65)
Optic Chiasm Disorder	3775, 37751, 37752, 37753, 37754	H4742, H4743, H4741, H4749
Optic Disc Disorder	37701, 37702, 37703, 37704, 3772, 37721, 37722, 37723 (+1)	H47329, H47399, H4711, H4713, H4712, H47319 (+2)
Optic Neuritis Neuropathy	3771, 37710, 37711, 37712, 37713, 37714, 37715, 37716 (+12)	H4610, H47019, H47029, H47039, H47239, H468 (+9)
Oral Soft Tissue Disease	5273, 528, 5280, 52800, 52809, 5281, 5282, 5283 (+9)	K098, K1239, K1379, A690, K1323, K1230 (+8)
Orbit Disorders	376, 3762, 37621, 37622, 3763, 37630, 37631, 37633 (+21)	H0589, H05359, H05269, H05349, H05429, H0530 (+13)
Oro-Facial Congenital Anomaly	520, 5203, 5206, 5207, 5208, 5209, 524, 5242 (+81)	M26213, M2629, M2624, M2625, M2623, M2620 (+51)
Oro-Naso-Pharyngeal Cancer	140, 1400, 1401, 1403, 1404, 1405, 1406, 1408 (+86)	D020, C089, C140, C021, C059, C081 (+71)
Osteoarthritis	715, 7150, 71500, 71504, 71505, 71506, 71508, 71509 (+45)	M19249, M19029, M19229, M150, M152, M1993 (+19)
Osteogenesis Imperfecta	75651	Q780
Osteomyelitis	7300, 73000, 73001, 73002, 73003, 73004, 73005, 73006 (+26)	M86619, M86679, M86659, M8660, M8668, M8669 (+17)
Osteopetrosis	75652	Q782
Osteopoikilosis	75653	Q788
Osteoporosis	7330, 73300, 73302, 73303, 73309	M818, M810
Other Corticoadrenal Disorder	255, 2553, 2556, 2558, 2559	E278, E270, E279, E275
Other Infectious Diseases	080, 081, 0810, 0811, 0812, 0819, 082, 0820 (+26)	A759, A753, A752, A751, A750, A799 (+20)
Other Inherited Amino Acid Metabo..	2708, 2709	E728, E729
Other Inherited Myotonias	35929	G7119

Disease	ICD-9-CM codes	ICD-10-CM codes
Other Inherited Osteodystrophy	75659	Q788
Other Lymphoid Histiocytic Cancers	202, 2023, 20230, 20231, 20232, 20233, 20234, 20235 (+25)	C7A091, C962, C880, C960, C96A
Other Viral Hepatitis	070, 0704, 07042, 07043, 07049, 0705, 07052, 07053 (+6)	B190, B172, B170, B199, B178, K77 (+2)
Otosclerosis	387, 3870, 3871, 3872, 3878, 3879	H8023, H8083, H8013, H8003, H8093
Ovarian Cancer	181, 183, 1830, 1832, 1833, 1834, 1835, 1838 (+4)	C5720, C5700, C58, C579, C578, C574 (+3)
Overweight	278, 2780, 27802	E663
PTSD	30981	F4312
Pagets Disease	731	
Pancreatic Cancer	157, 1570, 1571, 1572, 1573, 1574, 1578, 1579	C258, C259, C250, C251, C252, C253 (+1)
Pancreatic Disease	251, 2514, 2515, 2518, 2519, 577, 5770, 5771 (+4)	K863, K861, K859, K869, K868, E163 (+4)
Pancytopenia	2841, 28411, 28412, 28419	D61810, D61818, D61811
Papilledema	3770, 37700	H4710
Paranoia	297, 2970, 2971, 2972, 2973, 2978, 2979, 2983 (+1)	F23, F22, F24
Parasitic Infection	120, 1200, 1201, 1202, 1203, 1208, 1209, 121 (+65)	B741, B740, B743, B665, B689, B660 (+53)
Parathyroid Disorder	252, 2520, 25200, 25201, 25202, 25208, 2521, 2528 (+1)	E214, E215, E212, E213, E210, E211 (+1)
Paritial Androgen Insensitivity S..	25952	E3452
Parkinsons Disease	332, 3320, 33200	G20
Pataus Syndrome	7581	Q917
Peripheral Nerve Disorder	354, 3540, 3541, 3542, 3543, 3544, 3548, 3549 (+10)	G5790, G5610, G5600, G5690, G5630, G5740 (+10)
Peripheral Vascular Disease	443, 4430, 4438, 44381, 44389, 4439, 4592, 45981	I798, I7300, I7389, I872, I871, I739
Peritonitis Retroperitoneal Infec..	03283, 567, 5670, 5671, 5672, 56721, 56722, 56723 (+10)	K654, A3689, K650, K651, K652, K653 (+6)
Pernicious or B12 Deficiency Anemia	2810, 2811, 2814, 2818, 2819	D530, D510, D518, D538, D539
Peroxisomal Disorders	27786	E71548
Personality Disorder	301, 3010, 3011, 30110, 30111, 30112, 30113, 3012 (+18)	F600, F601, F602, F603, F604, F605 (+9)
Phenyketonuria	2701	E700

Disease	ICD-9-CM codes	ICD-10-CM codes
Phlebitis Thrombophlebitis	325, 4431, 44310, 451, 4510, 4511, 45111, 45119 (+14)	I87029, I8000, I87099, I80209, I731, I80219 (+8)
Phosphorus Metabolism Disorder	2753	E8339
Photodermatitis	6927, 69270, 69271, 69272, 69273, 69274, 69275, 69276 (+3)	L552, L551, L559, L578, L579, L568 (+4)
Pituitary Disorder	253, 2530, 2531, 2532, 2534, 2536, 2538, 2539	E229, E230, E222, E220, E236, E237
Pleuritis	511, 5110, 5111, 5118, 51189, 5119	J918, R091, J942, J948
Pneumonia	00322, 0203, 0204, 0205, 0212, 0221, 0310, 0391 (+61)	B381, B380, B371, J15212, J15211, B012 (+42)
Poliomyelitis	045, 0450, 04500, 04501, 04502, 04503, 0451, 04510 (+38)	M89619, M8960, M89639, M89629, A8039, A804 (+15)
Polyclonal Hypergammaglobulinemia	273	D890
Polycystic Kidney Disease	75313, 75314	Q612, Q6119
Polycystic Liver Disease	75162	Q446
Polymorphonuclear Neutrophils Dis..	2881	D71
Polyostotic Fibrous Dysplasia of ..	75654	Q781
Porphyrin Metabolic Disorder	2771	E8029
Prader Willi Syndrome	75981	Q871
Primary Carnitine Deficiency	27781, 27782	E7141, E7142
Primary Hereditary Retinal Dys-tro..	36273, 36274, 36275, 36276, 36277	H3554, H3552, H3553, H31101, H3551
Prion Disease	0461, 04611, 04619	A8109, A8101
Prostate Cancer	185, 2334	D075, C61
Protozoan Infection	0061, 0070, 0071, 0074, 0078, 130, 1305, 1307 (+11)	B581, A070, A599, B5889, A598, A5902 (+9)
Psoriasis Related Disorders	696, 6960, 6961, 6962, 6963, 6964, 6965, 6968	L42, L4059, L305, L448, L440, L408 (+1)
Psychogenic Somatoform Disorder	3001, 30011, 30016, 30019, 3007, 3008, 30081, 30082 (+16)	F446, F450, F4522, F688, F4521, F459 (+6)
Pubertal Dysfunction	2590, 2591	E308, E300
Pulmonary Embolism Infarction	4151, 41512, 41513, 41519, 4162	I2782, I2692, I2699, I2690
Pulmonary Heart Disease	415, 4150, 416, 4160, 4161, 4168, 4169, 417 (+4)	I2789, I270, I271, I289, I288, I2609 (+3)

Disease	ICD-9-CM codes	ICD-10-CM codes
Pure Hypercholesterolemia	272	E780
Pure Hyperglyceridemia	2721	E781
Purine Pyrimidine Metabolic Disor..	2772	E798
Purpura Other Hemorrhagic Con- diti..	2865, 287, 2870, 2871, 2872, 2878, 2879	D699, D698, D692, D691, D690
Radiation Sensitivity	5080, 5081, 5581, 59582, 6556, 65560, 65561, 65563 (+2)	M962, J701, J700, K520, N3041, O356XX0 (+1)
Reactive Arthritis	0993, 71110, 71111, 71112, 71113, 71114, 71115, 71116 (+3)	M02379, M02369, M02319, M02339, M02329, M0230 (+4)
Rectal Anal Disorder	5646, 565, 5650, 5651, 566, 5660, 5691, 5692 (+5)	K6282, K6281, K603, K602, K613, K605 (+4)
Refraction Accomodation Disorders	367, 3678, 36789, 3679	H527, H526
Refsums Disease	3563	G601
Renal Glycosuria	2714	E748
Respiratory Congenital Anomaly	748, 7482, 7483, 7484, 7485, 7486, 74860, 74861 (+3)	Q348, Q349, Q339, Q338, Q324, Q310 (+3)
Respiratory System Cancer	163, 1630, 1631, 1638, 1639, 165, 1650, 1658 (+5)	D024, D023, D021, C390, C384, C399
Rheumatic Heart Disease	3918, 3919, 3920, 394, 3940, 3941, 3942, 3949 (+23)	I058, I39, I0981, I091, I050, I051 (+14)
Rheumatoid Arthritis Related Cond..	714, 7140, 7141, 7142, 7143, 71430, 71431, 71432 (+8)	M083, M0800, M069, M064, M353, M061 (+4)
Rosacea	6953	L718
Ruvalcaba-Myhre Syndrome	27784	E71448
STI	090, 0900, 0901, 0902, 0903, 0904, 09040, 09041 (+138)	A502, A568, A501, A506, A507, A522 (+76)
Salivary Gland Disease	527, 5270, 5271, 5272, 5274, 5275, 5276, 5277 (+2)	K1120, K116, K115, K114, K119, K111 (+3)
Sarcoidosis	135	D869
Schizophrenia Related Psychosis	29381, 29382, 295, 2950, 29500, 29501, 29502, 29503 (+72)	F205, F259, F2089, F062, F202, F333 (+9)
Schwartz-Jampel Syndrome	35923	G7113
Sebaceous Gland Disorder	706, 7069	L739
Seborrheic Dermatitis	690, 6901, 69010, 69011, 69012, 69018, 6908	L303, L211, L219, L210, L218
Secondary Arthropathy	713, 7130, 7131, 7132, 7133, 7134, 7135, 7136 (+3)	M1460, M0200, M1280, M364, M029, M363 (+2)

Disease	ICD-9-CM codes	ICD-10-CM codes
Secondary Diabetes Mellitus	249, 2490, 24900, 24901, 2491, 24910, 24911, 2492 (+23)	E0901, E0939, E0910, E1339, E139, E138 (+12)
Secondary Hereditary Retinal Dyst..	36270, 36271, 36272	H36, H3550
Secondary Malignant Neoplasm	196, 1960, 1961, 1962, 1963, 1965, 1966, 1968 (+31)	C7889, C7960, C7949, C7800, C779, C7900 (+28)
Septic Arthritis	7110, 71100, 71101, 71102, 71103, 71104, 71105, 71106 (+3)	M009, M0089, M00829, M00839, M00819, M00869 (+3)
Septicemia	0031, 0202, 0223, 0362, 038, 0380, 0381, 03810 (+16)	A227, A409, A394, B007, A419, A4159 (+15)
Severe Combined Immunodeficiency	2792	D819
Sexual Dysfunction	30271, 30273, 30274	F520, F5232, F5231
Sideroblastic Anemia	285	
Sjogrens Syndrome	7102	M3501
Skin Infection	684, 6840, 685, 6850, 6851, 6861, 6868, 6869	L0889, L0592, L089, L0103, L0501, L0502 (+1)
Sleep Apnea	3272, 32720, 32721, 32722, 32723, 32724, 32725, 32726 (+2)	G4739, G4730, G4731, G4732, G4733, G4734 (+3)
Sleep Disorder	3074, 30740, 30741, 30742, 30743, 30744, 30745, 30746 (+40)	G478, F5113, F5119, G4701, G4709, G4729 (+29)
Smith-Magenis Syndrome	75833	Q9388
Specified Childhood Cerebral Dege..	3308	G3182
Speech Language Disorder	31502, 31509, 3153, 31531, 31532, 31534, 31535, 31539	F8081, F8089, F8181, H9325, F810, F804 (+2)
Spinal Chord Degeneration	336, 3360, 3361, 3362, 3363, 3368, 3369	G992, G950, G959, G320, G9519, G9589
Spinal Muscular Atrophy	3350, 3351, 33510, 33511, 33519	G121, G128, G120, G129
Spinal Stenosis	7230, 7240, 72400, 72401, 72402, 72403, 72409	M4804, M4808, M4806, M4800, M4802
Spinocerebellar Ataxia	3348	G118
Spirochetal Infection	087, 0870, 0871, 0879, 100, 1000, 1008, 10089 (+23)	A2789, A679, A691, A670, A671, A672 (+19)
Spleen Disease	2894, 2895, 28950, 28951, 28952, 28959	D732, D731, D739, D7389, D57412
Staphylococcus Aureus Infection	0411, 04110, 04111, 04112, 04119	B957, B958, B9562, B9561

Disease	ICD-9-CM codes	ICD-10-CM codes
Stomach Cancer	151, 1510, 1511, 1512, 1513, 1514, 1515, 1516 (+4)	C168, C169, C166, C164, C165, C162 (+5)
Streptococcal Infection	034, 0341, 0410, 04100, 04101, 04102, 04103, 04104 (+7)	I029, A389, B954, B955, B950, B951 (+2)
Stuttering	307	
Substance Abuse	291, 2910, 2911, 2912, 2913, 2914, 2915, 2918 (+152)	F1321, F1320, F1410, K7030, F1290, I426 (+57)
Sweat Gland Disorder	705, 7050, 7051, 7058, 70582, 70589, 7059	L758, L759, L752, L744, L742
Syndrome with Pervasive Con- genita..	75989	Q898
Synovium Tendon Bursa Disorder	727, 7270, 72700, 72701, 72702, 72703, 72704, 72705 (+31)	M7180, M6618, M6580, M6610, M7140, M6750 (+24)
Thymic Disorders	254, 2540, 2541, 2548, 2549	E321, E320, E328, E329
Thyroid Cancer	193	C73
Thyroiditis	245, 2450, 2451, 2452, 2453, 2454, 2458, 2459 (+1)	E041, E065, E064, E061, E060, E063 (+1)
Thyrotoxicosis	242, 2421, 24210, 24211, 2423, 24230, 24231, 2424 (+9)	E0521, E0520, E0510, E0511, E0530, E0531 (+5)
Tics Tourettes	3072, 30720, 30721, 30722, 30723, 3073	F950, F959, F952, F984, F951
Tongue Disease	529, 5290, 5291, 5292, 5293, 5294, 5295, 5296 (+2)	K148, K149, K140, K141, K142, K143 (+3)
Tuberculosis	010, 0100, 01000, 01001, 01002, 01003, 01004, 01005 (+487)	A1801, A1859, A170, A155, A158, A171 (+35)
Tuberous Sclerosis	7595	Q851
Turners Syndrome	7586	Q969
Tympanic Membrane Disorders	384, 3840, 38400, 38401, 38409, 3841, 3842, 38420 (+26)	H722X9, H73829, H72819, H7210, H72829, H73099 (+12)
Type II Diabetes Mellitus	25000, 25002, 25010, 25012, 25020, 25022, 25030, 25032 (+12)	E11641, E1129, E1101, E1151, E1139, E1310 (+5)
Type I Diabetes Mellitus	25001, 25003, 25011, 25013, 25021, 25023, 25031, 25033 (+12)	E108, E109, E1069, E1065, E1040, E1010 (+4)
UTI	598, 5980, 59800, 59801, 5990	N390, N37, N35111
Ulcerative Colitis	556, 5560, 5561, 5562, 5563, 5564, 5565, 5566, 5569, 5570, 5589 (+1)	K5100, K51011, K51012, K51013, K51014, K51018, K5120, K5130, K5140, K5150, K5180, K5190 (+25)
Unspecified Amyloidosis	27730, 27739	E858, E859

Disease	ICD-9-CM codes	ICD-10-CM codes
Unspecified Autoimmune Disease	27949, 2883	D8989, D721
Unspecified Behavioral Develop- men..	3076, 3077, 30921, 313, 3132, 31323, 3138, 31389 (+1)	F930, F940, F989, F988, F981, F980
Unspecified Benign Neoplasm	229, 2290, 2298, 2299	D367, D369, D360
Unspecified Cancer	195, 1952, 1953, 1954, 1955, 1958, 199, 1990 (+51)	D497, D495, C7A1, C7640, D491, D490 (+41)
Unspecified Cerebellar Disease	3342, 3343, 3344, 3349	G112, G119, G3281, G111
Unspecified Childhood Cerebral De..	3309	G319
Other/unspecified PDD codes (his- torical source label: Unspecified Childhood Psychoses)	2998, 29980, 29981, 2999, 29990, 29991	F848, F849
Unspecified Congenital Anomaly	7590, 7591, 7592, 7593, 7594, 7597, 7599	Q8909, Q899, Q894, Q897, Q891, Q892 (+1)
Unspecified Diabetes Mellitus	250, 2500, 2501, 2502, 2503, 2504, 2505, 2506 (+12)	E11311, E11319, E11339, E11329, E11359, E11349 (+1)
Unspecified Encephalopathy	3313, 3314, 3315, 3321, 3483, 34830, 34831, 34839 (+8)	G960, G9381, G9340, G9341, G988, G9619 (+9)
Unspecified Endocrine Disorder	259, 2593, 25950, 2598, 2599	E3450, E348, E349, E342
Unspecified Hematological Disorder	289, 2897, 2898, 28981, 28982, 28983, 28989, 2899	D6869, D7589, D7581, D6862, D759, D749 (+1)
Unspecified Hepatitis	5714, 57140, 57141, 57142, 57149	K730, K754, K739, K738
Unspecified Hyperlipidemia	2724	E785
Unspecified Immune Deficiency	27910, 27919, 2793	D808, D831, D849
Unspecified Immune Disorder	2798, 2799, 7015, 7094, 72882	L923, L929, M6020, D899, M359
Unspecified Lipid Metabolism Diso..	2729	E789
Unspecified Middle Ear Mastoid Di..	385, 3858, 38589, 3859	H7490, H748X9
Unspecified Neuropathy	34461, 3564, 3568, 3569	G834, G603, G609, G608
Unspecified Neuropsychiatric Diso..	2930, 2931, 2938, 29389, 2939, 2948, 2949, 3064 (+1)	F05, R451, F068, F53, F458
Unspecified Plasma Protein Metabo..	2738, 2739	E8809
Unspecified Polyglandular Disorder	2588, 2589	E319, E318

Disease	ICD-9-CM codes	ICD-10-CM codes
Unspecified Recurrent Headaches	30781, 339, 33905, 33909, 3391, 33910, 33911, 33912 (+17)	G44209, G4483, G44219, G4451, G4453, G4484 (+13)
Unspecified White Blood Cell Dise..	2880, 28800, 28803, 28804, 28809, 2884, 2885, 28850 (+14)	D72825, D763, D72821, D703, D7381, D7289 (+13)
Upper Respiratory Inflammation	462, 464, 4640, 46400, 46401, 4641, 46410, 46411 (+24)	J029, J370, J371, J399, J050, J392 (+11)
Urethral Disorder	599, 5991, 5992, 5993, 5994, 5995, 59984	N362, N361, N368, N360, N365
Urinary Calculus	592, 5920, 5921, 5929, 594, 5940, 5941, 5942 (+2)	N209, N219, N218, N200, N201, N211 (+1)
Uterine Cancer	179, 182, 1820, 1821, 1828, 2332, 2360	C55, D070, C540, D390, C548, C549
Varicella Infection	052, 0522, 0527, 0528, 0529	B0112, B019, B0189
Varicose Veins	4540, 4541, 4542, 4548, 4549, 456, 4563, 4564 (+3)	I861, I868, I863, I862, I860
Vascular Congenital Anomaly	7470, 7471, 74710, 7472, 74720, 74722, 74729, 7473 (+13)	Q278, Q279, Q269, Q268, Q283, Q263 (+9)
Vascular Insufficiency	4471, 557, 5570, 5571, 5579	I771, K551, K559, K550
Vasculitis	446, 4460, 4462, 44620, 44621, 44629, 4463, 4464 (+4)	M3130, I776, M300, M312, M311, M310 (+2)
Velo-Cardio-Facial Syndrome	75832	Q9381
Viral Hepatitis A	0700, 0701	B150, B159
Viral Hepatitis B	0702, 07020, 07021, 07022, 07023, 0703, 07030, 07031 (+2)	B181, B180, B161, B160, B1910, B1911
Viral Hepatitis C	07041, 07044, 07051, 07054, 0707, 07070, 07071	B1710, B182, B1711, B1921, B1920
Viral Warts HPV	0781, 07810, 07811, 07812, 07819, 0794	A630, B079, B078, B070, B977
Visual Pathway Cortex Disorder	3776, 37761, 37762, 37763, 3777, 37771, 37772, 37773 (+2)	H47519, H47629, H479, H47639, H47619, H47649 (+2)
Vitamin Deficiency	264, 2640, 2641, 2642, 2643, 2644, 2645, 2646 (+21)	E54, E52, E519, E531, E530, E550 (+19)
Vitamin Toxicity	2782, 2783, 2784	E670, E671, E673
Vitreous Body Disorder	3792, 37921, 37922, 37923, 37924, 37925, 37926, 37929	H43319, H4303, H4313, H4389, H43819, H43399 (+1)
Wiskott-Alrich Syndrome	27912	D820

Supplementary Table 10: **ICD diagnostic codes used to define parental psychiatric history.** A parent was flagged as having a psychiatric history if any of these codes appeared in their claims record.

Condition	ICD-9-CM codes	ICD-10-CM codes
Acute exacerbation of chronic catatonic schizophrenia	29524	—
Acute exacerbation of chronic latent schizophrenia	29554	—
Acute exacerbation of chronic paranoid schizophrenia	29534	—
Acute exacerbation of chronic schizoaffective schizophrenia	29574	—
Acute exacerbation of chronic schizophrenia	29504, 29584, 29594	—
Acute exacerbation of subchronic catatonic schizophrenia	29523	—
Acute exacerbation of subchronic latent schizophrenia	29553	—
Acute exacerbation of subchronic paranoid schizophrenia	29533	—
Acute exacerbation of subchronic schizoaffective schizophrenia	29573	—
Acute paranoid reaction	2983	—
Acute post-trauma stress state	—	F4311
Acute stress disorder	308, 3080, 3082, 3083, 3084, 3089	F430, F438, F439
Adjustment disorder	309, 3092, 30929, 3098, 30989, 3099	F432, F4320, F4329, Z600
Adjustment disorder with anxious mood	30924	F4322
Adjustment disorder with depressed mood	3090	F4321
Adjustment disorder with disturbance of conduct	3093	F4324
Adjustment disorder with mixed anxiety and depressed mood	30928	F4323
Adjustment disorder with mixed disturbance of emotions AND conduct	3094	F4325

Condition	ICD-9-CM codes	ICD-10-CM codes
Adjustment disorder with mixed emotional features	3091	—
Adjustment disorder with withdrawal	30983	—
Adjustment reaction with physical symptoms	30982	—
Agoraphobia	—	F400, F4000
Agoraphobia without history of panic disorder	—	F4002
Agoraphobia without history of panic disorder without limited symptom attacks	30022	—
Antisocial personality disorder	3017	F602
Anxiety disorder	—	F41, F413, F418, F419
Anxiety state	3000, 30000, 30009	—
Atypical depressive disorder	29682	—
Atypical manic disorder	29681	—
Avoidant personality disorder	30182	F606
Behavioral syndrome associated with physiological disturbance and physical factors	—	F59
Bipolar affective disorder, current episode depression	2965, 29650, 29655	F313, F3130, F314
Bipolar affective disorder, current episode manic	2964, 29640, 29645	F311, F3110
Bipolar affective disorder, current episode mixed	—	F316, F3160
Bipolar affective disorder, currently depressed, in full remission	29656	—
Bipolar affective disorder, currently depressed, mild	29651	F3131
Bipolar affective disorder, currently depressed, moderate	29652	F3132
Bipolar affective disorder, currently manic, in full remission	29646	—

Condition	ICD-9-CM codes	ICD-10-CM codes
Bipolar affective disorder, currently manic, mild	29641	F3111
Bipolar affective disorder, currently manic, moderate	29642	F3112
Bipolar affective disorder, currently manic, severe, with psychosis	29644	F312
Bipolar disorder	2968, 29680, 29689	F31, F318, F3189, F319
Bipolar disorder in full remission	—	F3172
Bipolar disorder in partial remission	—	F3171
Bipolar disorder in remission	—	F317, F3170
Bipolar I disorder	2967	—
Bipolar I disorder, most recent episode hypomanic	—	F310
Bipolar I disorder, single manic episode	2960, 29600	—
Bipolar I disorder, single manic episode, in full remission	29606	—
Bipolar I disorder, single manic episode, in remission	29605	—
Bipolar II disorder	—	F3181
Body dysmorphic disorder	—	F4522
Borderline personality disorder	30183	F603
Brief reactive psychosis	—	F23
Catatonic schizophrenia	2952, 29520	F202
Catatonic schizophrenia in remission	29525	—
Chronic catatonic schizophrenia	29522	—
Chronic depressive personality disorder	30112	—
Chronic disorganized schizophrenia	29512	—
Chronic disorganized schizophrenia with acute exacerbation	29514	—
Chronic hypomanic personality disorder	30111	—
Chronic latent schizophrenia	29552	—
Chronic paranoid schizophrenia	29532	—
Chronic post-traumatic stress disorder	—	F4312

Condition	ICD-9-CM codes	ICD-10-CM codes
Chronic residual schizophrenia	29562	—
Chronic residual schizophrenia with acute exacerbations	29564	—
Chronic schizoaffective schizophrenia	29572	—
Chronic schizophrenia	29582	—
Chronic undifferentiated schizophrenia	29592	—
Compulsive gambling	31231	F630
Compulsive hoarding	—	F423
Confusional arousal disorder	32741	G4751
Cyclothymia	3011, 30110, 30113	F340
Delirium	2930	F05
Delusional disorder	297, 2971, 2978, 2979	F22
Dependent personality disorder	3016	F607
Depersonalization disorder	3006	—
Depersonalization-derealization syndrome	—	F481
Depressed bipolar I disorder in full remission	—	F3176
Depressed bipolar I disorder in partial remission	—	F3175
Depressive disorder	311	F328, F3289, F32A
Disorder of sleep-wake cycle	3273, 32730, 32737, 32739, 78055	G472, G4720, G4725, G4727, G4729
Disorders of initiating and maintaining sleep	30741, 30742, 30743, 30744	—
Disorganized schizophrenia	2951, 29510	F201
Disorganized schizophrenia in remission	29515	—
Disruptive mood dysregulation disorder	—	F3481
Dissociative disorder	2981, 30010, 30015	—
Dissociative stupor	—	F442
Disturbance of perception associated with conversion and dissociative phenomenon	—	F44, F448, F4489, F449
Dream anxiety disorder	—	F515
Dysthymia	3004	F341
Episodic mood disorder	296, 2969, 29690, 29699	—

Condition	ICD-9-CM codes	ICD-10-CM codes
Explosive personality disorder	3013	—
Factitious disorder	30019, 30151	F681, F6810
Factitious disorder with predominantly physical signs and symptoms	—	F6812
Factitious disorder with predominantly psychological signs and symptoms	30016	F6811
Generalized anxiety disorder	30002	F411
Generalized social phobia	—	F4011
Histrionic personality disorder	3015, 30150, 30159	F604
Hypersomnia	32710, 32719, 78054	G471, G4710, G4719
Hypersomnia disorder related to another mental disorder	32715	F5113
Hypersomnia of non-organic origin	—	F511, F5119
Hypochondriasis	3007	F452, F4520, F4521, F4529
Identity disorder	31382	—
Idiopathic hypersomnia associated with long sleep time	32711	G4711
Idiopathic hypersomnia without long sleep time	32712	G4712
Impulse control disorder	3123, 31230, 31239	F63, F638, F6389, F639
Induced psychotic disorder	2973	F24
Insomnia	32709, 78052	G470, G4700, G4709
Insomnia disorder related to another mental disorder	32702	F5105
Intermittent explosive disorder	31234	F6381
Introverted personality disorder	30121	—
Irregular sleep-wake pattern	32733	G4723
Isolated explosive disorder	31235	—
Latent schizophrenia	2955, 29550	—
Latent schizophrenia in remission	29555	—
Major depression single episode, in partial remission	—	F324
Major depression, single episode	2962, 29620, 29625	F32, F329

Condition	ICD-9-CM codes	ICD-10-CM codes
Mania	—	F301, F308
Mania with psychotic features	—	F302
Manic bipolar I disorder in full remission	—	F3174
Manic bipolar I disorder in partial remission	—	F3173
Manic disorder, single episode	2961, 29610, 29611, 29613, 29615, 29616	F30, F3010, F3013, F309
Mental disorder	3001, 307, 3079, V402	F99
Mild bipolar I disorder, single manic episode	29601	—
Mild major depression, single episode	29621	F320
Mild recurrent major depression	—	F330
Mixed bipolar affective disorder, in full remission	29666	—
Mixed bipolar affective disorder, mild	29661	F3161
Mixed bipolar affective disorder, moderate	29662	F3162
Mixed bipolar affective disorder, severe, with psychosis	29664	F3164
Mixed bipolar I disorder	2966, 29660	—
Mixed bipolar I disorder in full remission	—	F3178
Mixed bipolar I disorder in partial remission	29665	F3177
Moderate bipolar I disorder, single manic episode	29602	—
Moderate major depression	832007	—
Moderate major depression, single episode	29622	F321
Moderate recurrent major depression	—	F331
Mood disorder	29383	F34, F348, F3489, F349, F39
Mood disorder due to a general medical condition	—	F0630
Multiple personality disorder	30014	F4481
Narcissistic personality disorder	30181	F6081
Neurocirculatory asthenia	3062	—

Condition	ICD-9-CM codes	ICD-10-CM codes
Neurosis	300, 3005, 3009	F48, F488, F489
Non-24 hour sleep-wake cycle	32734	G4724
Non-organic psychosis	298	—
Non-organic sleep disorder	3074, 30740, 30749	F51, F518, F519
Nonorganic insomnia	—	F510, F5109
Not getting enough sleep	—	F5112
Obsessional thoughts	—	F422
Obsessive compulsive personality disorder	3014	F605
Obsessive-compulsive disorder	3003	F42, F428, F429
Pain disorder with psychological factor	3078, 30780, 30789	F454, F4541, F4542
Panic disorder with agoraphobia	30021	F4001
Panic disorder without agoraphobia	30001	F410
Paranoid personality disorder	3010	F600
Paranoid schizophrenia	2953, 29530	F200
Paranoid schizophrenia in remission	29535	—
Paraphrenia	2972	—
Parasomnia	32744	G475, G4750, G4754, G4759
Passive aggressive personality disorder	30184	—
Periodic limb movement disorder	32751	G4761
Personality disorder	301, 3018, 30189, 3019, 3101	F60, F608, F6089, F609, F68, F688, F69
Phobia	30020	F4023, F4024, F40248, F4029, F40298
Phobic disorder	3002, 30029	F40, F408, F409
Postpartum psychosis	—	F53, F531
Posttraumatic stress disorder	30981	F431, F4310
Premenstrual dysphoric disorder	596004	F3281
Psychogenic amnesia	30012	F440
Psychogenic dysmenorrhea	30652	—
Psychogenic dysuria	30653	—
Psychogenic endocrine malfunction	3066	—
Psychogenic fugue	30013	F441
Psychogenic genitourinary tract symptoms	3065, 30650, 30659	—
Psychogenic paranoid psychosis	2984	—
Psychogenic skin disease	3063	—

Condition	ICD-9-CM codes	ICD-10-CM codes
Psychogenic symptom of special sense organ	3067	—
Psychologic conversion disorder	30011	F444, F445, F446, F447
Psychophysiologic disorder	306, 3068, 3069, 316	F54
Psychophysiologic insomnia	—	F5104
Psychosis and severe depression co-occurrent and due to bipolar affective disorder	—	F315
Psychosomatic musculoskeletal symptoms	3060	—
Psychotic disorder	2989	F28, F29
Reactive confusion	2982	—
Reactive depressive psychosis	2980	—
Reactive psychoses	2988	—
Recurrent depression	—	F338
Recurrent hypersomnia	32713	G4713
Recurrent isolated sleep paralysis	32743	G4753
Recurrent major depression	2963, 29630	F33, F339
Recurrent major depression in full remission	29636	F3342
Recurrent major depression in partial remission	—	F3341
Recurrent major depression in remission	29635	F334, F3340
Recurrent major depressive episodes, mild	29631	—
Recurrent major depressive episodes, moderate	29632	—
Recurrent major depressive episodes, severe, with psychosis	29634	F333
Recurrent manic episodes	2961, 29610, 29613, 29614, 29615	—
Recurrent manic episodes, in full remission	29616	—
Recurrent manic episodes, mild	29611	—
Recurrent manic episodes, moderate	29612	—
Relationship problems	3133, V6281	Z637
REM sleep behavior disorder	32742	G4752

Condition	ICD-9-CM codes	ICD-10-CM codes
Repetitive self-excoriation	—	F424
Residual schizophrenia	2956, 29560	F205
Residual schizophrenia in remission	29565	—
Restlessness and agitation	—	R451
Schizoaffective disorder	2957, 29570	F25, F258, F259
Schizoaffective disorder, bipolar type	—	F250
Schizoaffective disorder, depressive type	—	F251
Schizoaffective schizophrenia in remission	29575	—
Schizoid personality disorder	3012, 30120	F601
Schizophrenia	2958, 29580, 2959, 29590	F20, F208, F2089, F209
Schizophrenia in remission	29505, 29585, 29595	—
Schizophrenic disorders	295	—
Schizophreniform disorder	2954, 29540, 29541, 29542, 29543, 29544, 29545	F2081
Schizotypal personality disorder	30122	F21
Severe bipolar I disorder, single manic episode with psychotic features	29604	—
Severe bipolar I disorder, single manic episode without psychotic features	29603	—
Severe depressed bipolar I disorder with psychotic features	29654	—
Severe depressed bipolar I disorder without psychotic features	29653	—
Severe major depression, single episode, with psychotic features	29624	F323
Severe major depression, single episode, without psychotic features	29623	F322
Severe manic bipolar I disorder without psychotic features	162004, 29643	F3113
Severe mixed bipolar I disorder without psychotic features	29663	F3163
Severe recurrent major depression without psychotic features	29633	F332

Condition	ICD-9-CM codes	ICD-10-CM codes
Simple paranoid state	2970	—
Simple schizophrenia	2950, 29500, 29502	—
Single episode of major depression in full remission	29626	F325
Single manic episode in full remission	—	F304
Single manic episode in partial remission	—	F303
Single manic episode, mild	—	F3011
Single manic episode, moderate	29612	F3012
Single manic episode, severe, with psychosis	29614	—
Sleep disorder	30747, 7805, 78050	G47, G478, G479
Sleep dysfunction with arousal disturbance	30746, 78056	—
Sleep related rhythmic movement disorder	78058	G4769
Sleep state misperception	—	F5103
Sleep terror disorder	—	F514
Sleep walking disorder	—	F513
Sleep-wake schedule disorder, advanced phase type	32732	G4722
Sleep-wake schedule disorder, delayed phase type	32731	G4721
Social phobia	30023	F401, F4010
Somatization disorder	30081	F450
Somatoform autonomic dysfunction - gastrointestinal tract	3064	—
Somatoform autonomic dysfunction - respiratory tract	3061	—
Somatoform disorder	3008, 30089, 3068	F45, F458, F459
Specific academic or work inhibition	30923	—
Stress and adjustment reaction	—	F43
Subacute delirium	2931	—
Subchronic catatonic schizophrenia	29521	—
Subchronic disorganized schizophrenia	29511	—

Condition	ICD-9-CM codes	ICD-10-CM codes
Subchronic disorganized schizophrenia with acute exacerbations	29513	—
Subchronic latent schizophrenia	29551	—
Subchronic paranoid schizophrenia	29531	—
Subchronic residual schizophrenia	29561	—
Subchronic residual schizophrenia with acute exacerbations	29563	—
Subchronic schizoaffective schizophrenia	29571	—
Subchronic schizophrenia	29501, 29581, 29591	—
Subchronic schizophrenia with acute exacerbations	29503, 29583, 29593	—
Undifferentiated schizophrenia	—	F203
Undifferentiated somatoform disorder	30082	F451

Supplementary Table 11: **Disease-level results from the stricter clinical rematch cohort.** Results for all diseases with sufficient case counts in the strict-match cohort ($N = 529,760$ matched pairs). Columns show odds ratios, 95% confidence intervals, and P -values from weighted logistic regression.

Disease	N cases	Prev.%	Strict OR	Strict 95% CI	Strict P
Acne	224,010	21.14	0.822	(0.81–0.83)	$<1e-300$
Other/unspecified PDD codes	5,002	0.47	0.557	(0.53–0.59)	4.7×10^{-92}
Non-Specific Pain	266,251	25.13	1.102	(1.09–1.11)	3.8×10^{-82}
Adjustment Disorder	65,028	6.14	0.843	(0.83–0.86)	3.3×10^{-67}
Substance Abuse	47,608	4.49	1.196	(1.17–1.22)	8.8×10^{-64}
Allergic Rhinitis	198,136	18.70	0.895	(0.88–0.91)	1.8×10^{-59}
Non-Specific Joint Disorder	265,839	25.09	1.078	(1.07–1.09)	1.5×10^{-49}
UTI	98,997	9.34	1.126	(1.11–1.14)	1.8×10^{-48}
Abnormal Spine Curvature	39,110	3.69	0.857	(0.84–0.88)	2.4×10^{-44}
General Viral Infection	150,643	14.22	0.912	(0.90–0.92)	5.3×10^{-42}
Herpes Zoster	7,250	0.68	1.377	(1.31–1.44)	1.1×10^{-39}
Gestational Pregnancy Related Disorder	25,610	2.42	1.180	(1.15–1.21)	3.6×10^{-36}
Ocular Musculoskeletal Disorder	21,787	2.06	0.808	(0.78–0.84)	2.0×10^{-35}
OCD	7,972	0.75	0.771	(0.74–0.80)	3.5×10^{-35}
Non-Specific Gastrointestinal Disorder	72,669	6.86	1.108	(1.09–1.13)	6.9×10^{-35}
Migraine	45,080	4.25	1.134	(1.11–1.16)	3.9×10^{-32}
Cervical Cancer	13,073	1.23	1.233	(1.19–1.28)	2.1×10^{-31}
Seborrheic Dermatitis	18,789	1.77	0.839	(0.81–0.86)	2.9×10^{-31}
Non-Specific Cardiovascular Disease	29,781	2.81	1.146	(1.12–1.17)	1.3×10^{-30}
Gastritis Duodenitis	30,969	2.92	1.145	(1.12–1.17)	1.3×10^{-30}
Anxiety Phobic Disorder	100,864	9.52	0.910	(0.90–0.92)	2.3×10^{-30}
Viral Warts HPV	133,896	12.64	0.933	(0.92–0.94)	2.9×10^{-29}
Disease of the Female Reproductive Org..	107,489	10.14	1.099	(1.08–1.12)	1.1×10^{-28}

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Chronic Tonsillitis Adenoiditis	38,379	3.62	1.119	(1.10–1.14)	1.6×10^{-27}
Tics Tourettes	4,238	0.40	0.704	(0.66–0.75)	1.9×10^{-27}
Esophageal Disease	48,163	4.55	1.115	(1.09–1.14)	6.0×10^{-27}
ADHD	88,575	8.36	0.917	(0.90–0.93)	2.0×10^{-24}
General Spondylosis Spine Disorder	41,042	3.87	1.109	(1.09–1.13)	6.9×10^{-24}
Benign Skin Neoplasm	101,948	9.62	0.934	(0.92–0.95)	3.2×10^{-23}
Biliary Tract Disease	13,145	1.24	1.184	(1.14–1.22)	4.5×10^{-23}
Conduct Disorder	13,105	1.24	0.846	(0.82–0.88)	1.9×10^{-21}
Food Allergy	9,376	0.89	0.823	(0.79–0.86)	4.7×10^{-21}
Menstrual Disorder	119,512	11.28	1.067	(1.05–1.08)	1.5×10^{-20}
Non-Specific Urinary Disorder	33,894	3.20	1.101	(1.08–1.12)	6.1×10^{-20}
Kidney Infection	7,687	0.73	1.229	(1.17–1.29)	5.4×10^{-19}
Pubertal Dysfunction	5,064	0.48	0.777	(0.73–0.82)	5.5×10^{-19}
Electrolyte Acid-Base Balance Disorder	10,992	1.04	1.173	(1.13–1.21)	1.1×10^{-18}
IBS Crohns Disease	16,384	1.55	1.143	(1.11–1.18)	2.4×10^{-18}
Epidermolysis Bullosa	15,242	1.44	0.864	(0.84–0.89)	2.9×10^{-18}
Eye Inflammation	80,560	7.60	0.939	(0.93–0.95)	3.9×10^{-17}
IBS	15,083	1.42	1.147	(1.11–1.18)	6.8×10^{-17}
External Ear Disorders	43,580	4.11	0.923	(0.91–0.94)	9.7×10^{-17}
Synovium Tendon Bursa Disorder	39,698	3.75	1.086	(1.06–1.11)	2.4×10^{-15}
Neonatal Disease	4,358	0.41	0.777	(0.73–0.83)	2.8×10^{-15}
Cystitis Urethritis	18,527	1.75	1.132	(1.10–1.17)	3.2×10^{-15}
Unspecified Recurrent Headaches	15,095	1.43	1.135	(1.10–1.17)	1.3×10^{-14}
Urinary Calculus	9,643	0.91	1.163	(1.12–1.21)	3.3×10^{-14}
Pneumonia	23,202	2.19	0.901	(0.88–0.93)	3.4×10^{-14}
Autism	4,745	0.45	0.799	(0.75–0.85)	1.1×10^{-13}
Unspecified White Blood Cell Disease	12,460	1.18	1.150	(1.11–1.19)	2.5×10^{-13}

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Breast Disorder	27,605	2.60	1.093	(1.07–1.12)	3.6×10^{-12}
STI	7,150	0.68	1.186	(1.13–1.24)	3.8×10^{-12}
Herpes Simplex	16,808	1.59	1.103	(1.07–1.13)	4.0×10^{-12}
Acquired Visual Disturbances	73,670	6.95	0.939	(0.92–0.96)	5.5×10^{-12}
Muscle Ligament Disorder	127,577	12.04	1.046	(1.03–1.06)	7.5×10^{-12}
Unspecified Encephalopathy	7,362	0.69	0.841	(0.80–0.89)	4.9×10^{-11}
Hirsutism	4,501	0.42	0.835	(0.79–0.88)	2.2×10^{-10}
Pleuritis	4,954	0.47	1.189	(1.13–1.26)	6.1×10^{-10}
Spinal Stenosis	2,611	0.25	1.231	(1.15–1.32)	2.9×10^{-9}
Dyschromia	20,251	1.91	0.925	(0.90–0.95)	8.0×10^{-9}
Osteomyelitis	12,555	1.19	1.119	(1.08–1.16)	8.7×10^{-9}
Oro-Facial Congenital Anomaly	53,511	5.05	0.937	(0.92–0.96)	1.7×10^{-8}
Eating Disorder	6,608	0.62	0.874	(0.83–0.92)	1.8×10^{-8}
Infestation	9,637	0.91	1.113	(1.07–1.15)	2.0×10^{-8}
Non-Specific Congenital Musculoskeleta..	19,797	1.87	0.919	(0.89–0.95)	2.6×10^{-8}
Chronic Upper Respiratory Infection	32,024	3.02	0.934	(0.91–0.96)	3.1×10^{-8}
Developmental Delay	4,047	0.38	0.852	(0.80–0.90)	4.7×10^{-8}
Tympanic Membrane Disorders	8,108	0.77	1.137	(1.09–1.19)	4.8×10^{-8}
General Ear Disorder	51,270	4.84	0.948	(0.93–0.97)	4.9×10^{-8}
Impulse Control Disorder	3,234	0.30	0.812	(0.75–0.88)	1.3×10^{-7}
Functional Digestive Disorder	53,885	5.09	1.048	(1.03–1.07)	1.6×10^{-7}
Non-Rheumatic Heart Disease	9,280	0.88	1.113	(1.07–1.16)	9.1×10^{-7}
Obesity	27,152	2.56	1.062	(1.04–1.09)	1.4×10^{-6}
Ear Infection	204,289	19.28	0.975	(0.96–0.99)	1.5×10^{-6}
Osteoarthritis	8,340	0.79	1.114	(1.07–1.16)	1.7×10^{-6}
Appendiceal Disease	9,866	0.93	1.105	(1.06–1.15)	1.8×10^{-6}
Bipolar Disorder	14,521	1.37	0.916	(0.88–0.95)	2.0×10^{-6}

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Non-Specific Dental Disorder	6,605	0.62	1.135	(1.08–1.20)	2.4×10^{-6}
Acquired Hypothyroidism	21,544	2.03	1.064	(1.04–1.09)	3.6×10^{-6}
Gastrointestinal Infection	31,134	2.94	1.058	(1.03–1.08)	5.1×10^{-6}
Brain Damage	9,320	0.88	1.107	(1.06–1.16)	5.4×10^{-6}
Depression	76,913	7.26	0.963	(0.95–0.98)	5.8×10^{-6}
Streptococcal Infection	6,493	0.61	0.893	(0.85–0.94)	8.0×10^{-6}
Non-Specific Eye Disorders	14,214	1.34	0.925	(0.89–0.96)	8.2×10^{-6}
General Hypertension	19,790	1.87	1.061	(1.03–1.09)	1.4×10^{-5}
Non-Specific Acquired Musculoskeletal ..	95,733	9.04	1.032	(1.02–1.05)	1.5×10^{-5}
Pernicious or B12 Deficiency Anemia	2,766	0.26	1.182	(1.10–1.27)	1.5×10^{-5}
Non-Specific Arthritis	7,555	0.71	1.107	(1.06–1.16)	2.3×10^{-5}
Congenital Anomaly of Skull Neck	4,355	0.41	0.876	(0.82–0.94)	7.1×10^{-5}
Asthma	99,808	9.42	0.970	(0.96–0.98)	8.0×10^{-5}
Acquired Retinal Defects	6,034	0.57	0.902	(0.86–0.95)	8.6×10^{-5}
Male Genital Congenital Anomaly	2,624	0.25	0.841	(0.77–0.92)	1.0×10^{-4}
Mood Disorder	15,059	1.42	0.933	(0.90–0.97)	1.1×10^{-4}
Unspecified Lipid Metabolism Disorder	1,290	0.12	0.820	(0.74–0.91)	1.1×10^{-4}
Type II Diabetes Mellitus	8,245	0.78	1.110	(1.05–1.17)	1.1×10^{-4}
Peripheral Nerve Disorder	8,345	0.79	1.095	(1.05–1.15)	1.2×10^{-4}
Lymphatic Disorder	19,248	1.82	1.066	(1.03–1.10)	1.3×10^{-4}
Non-Specific Soft Tissue Disorder	6,379	0.60	1.107	(1.05–1.17)	1.3×10^{-4}
Chronic Kidney Disease	1,288	0.12	1.203	(1.09–1.32)	1.5×10^{-4}
Chronic Sinusitis	73,885	6.97	0.968	(0.95–0.98)	1.5×10^{-4}
Non-Specific Genitourinary Congenital ..	3,940	0.37	1.129	(1.06–1.20)	1.8×10^{-4}
Rosacea	7,890	0.74	0.913	(0.87–0.96)	1.9×10^{-4}
Unspecified Behavioral Development Dis..	6,099	0.58	0.899	(0.85–0.95)	2.1×10^{-4}
Growth Hormone Deficiency	1,924	0.18	0.841	(0.77–0.92)	2.1×10^{-4}

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Pure Hypercholesterolemia	590	0.06	0.734	(0.62–0.87)	2.3×10^{-4}
Malnutrition	3,002	0.28	0.887	(0.83–0.95)	2.7×10^{-4}
Neural Tube Defect	1,109	0.10	1.220	(1.09–1.36)	3.4×10^{-4}
Varicella Infection	3,255	0.31	0.892	(0.84–0.95)	3.5×10^{-4}
Non-Specific Congenital Eye Anomaly	1,890	0.18	0.828	(0.75–0.92)	3.9×10^{-4}
Non-Specific Gingival Peridontal Disor..	4,813	0.45	1.125	(1.05–1.20)	4.2×10^{-4}
Acute Sinusitis	236,167	22.29	0.979	(0.97–0.99)	4.3×10^{-4}
Varicose Veins	5,929	0.56	0.913	(0.87–0.96)	5.9×10^{-4}
Acute Bronchitis	148,416	14.01	1.023	(1.01–1.04)	5.9×10^{-4}
Alopecia	10,851	1.02	0.934	(0.90–0.97)	6.6×10^{-4}
Non-Specific Skin Disorder	97,448	9.20	0.973	(0.96–0.99)	7.6×10^{-4}
Non-Specific Immune-Related Skin Disor..	20,724	1.96	0.948	(0.92–0.98)	9.7×10^{-4}
Rectal Anal Disorder	8,423	0.80	1.074	(1.03–1.12)	0.001
Secondary Arthropathy	3,310	0.31	1.114	(1.04–1.19)	0.001
Hernia	10,153	0.96	1.065	(1.02–1.11)	0.001
Inflammatory Spondylopathies	1,938	0.18	1.158	(1.06–1.27)	0.002
Escherichia Coli Infection	1,064	0.10	1.218	(1.08–1.38)	0.002
Jaw Disease	15,488	1.46	1.050	(1.02–1.08)	0.002
Esophagitis	7,239	0.68	1.073	(1.03–1.12)	0.002
Personality Disorder	5,652	0.53	0.925	(0.88–0.97)	0.002
Cardiac Dysrhythmia	23,826	2.25	1.043	(1.02–1.07)	0.002
Complex Regional Pain Syndrome	914	0.09	1.220	(1.07–1.39)	0.002
Eye Infection	104,151	9.83	1.021	(1.01–1.04)	0.002
Acute Renal Failure	1,223	0.12	1.189	(1.06–1.33)	0.002
Benign Uterine Neoplasm	1,571	0.15	1.154	(1.05–1.27)	0.003
Non-Specific Sugar Metabolism Disorder	6,214	0.59	1.075	(1.02–1.13)	0.003
General Osteochondropathy	21,809	2.06	1.043	(1.01–1.07)	0.003

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Rheumatic Heart Disease	2,269	0.21	1.128	(1.04–1.22)	0.003
Unspecified Cancer	16,035	1.51	1.047	(1.02–1.08)	0.004
Non-Specific Anemia	37,475	3.54	1.035	(1.01–1.06)	0.004
Refraction Accomodation Disorders	4,979	0.47	0.926	(0.88–0.98)	0.004
Gastrointestinal Ulcer	3,542	0.33	1.102	(1.03–1.18)	0.004
Protozoan Infection	1,465	0.14	1.167	(1.05–1.30)	0.006
Pancreatic Disease	1,637	0.15	1.135	(1.04–1.24)	0.006
Viral Hepatitis C	616	0.06	1.254	(1.07–1.48)	0.007
Non-Melanoma Skin Cancer	52,765	4.98	0.973	(0.95–0.99)	0.007
Eustachian Tube Disorder	28,645	2.70	1.037	(1.01–1.06)	0.007
Marfan Syndrome	788	0.07	0.823	(0.71–0.95)	0.007
Disorder of the Vestibular System	3,572	0.34	1.103	(1.03–1.18)	0.007
Unspecified Neuropathy	1,482	0.14	1.136	(1.04–1.25)	0.007
Fungal Infection	83,060	7.84	1.019	(1.01–1.03)	0.007
Hemangioma Lymphangioma	6,991	0.66	0.934	(0.89–0.98)	0.008
Learning Disorder	3,181	0.30	0.903	(0.84–0.97)	0.008
PTSD	4,320	0.41	1.094	(1.02–1.17)	0.009
Arthropod-Borne Diseases	4,038	0.38	0.917	(0.86–0.98)	0.009
Meningitis	1,406	0.13	1.177	(1.04–1.33)	0.009
Non-Specific Osteopathy	15,488	1.46	1.044	(1.01–1.08)	0.009
Non-Specific Metabolic Disorder	11,384	1.07	1.049	(1.01–1.09)	0.009
Acquired Coagulation Defect	1,908	0.18	1.129	(1.03–1.24)	0.010
Hypotension	5,580	0.53	1.078	(1.02–1.14)	0.010
Bladder Disorder	3,173	0.30	1.090	(1.02–1.17)	0.011
Benign Digestive Neoplasm	1,770	0.17	1.135	(1.03–1.25)	0.011
Pure Hyperglyceridemia	2,529	0.24	0.907	(0.84–0.98)	0.012
Benign Colon Neoplasm	2,414	0.23	1.108	(1.02–1.20)	0.013

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Goiter	10,086	0.95	1.049	(1.01–1.09)	0.014
Cellulitis	97,369	9.19	1.016	(1.00–1.03)	0.015
Nerve Root Plexus Disorders	3,187	0.30	1.074	(1.01–1.14)	0.015
Vitreous Body Disorder	5,359	0.51	0.944	(0.90–0.99)	0.017
Diverticulosis Diverticulitis	1,036	0.10	1.161	(1.03–1.31)	0.017
Benign Eye Neoplasm	2,329	0.22	0.907	(0.84–0.98)	0.019
Papilledema	819	0.08	1.194	(1.03–1.38)	0.019
Chronic Liver Disease	2,634	0.25	1.097	(1.01–1.19)	0.020
Hair Related Disease	33,459	3.16	0.973	(0.95–1.00)	0.020
Non-Specified Cardiac Ischemia	815	0.08	1.180	(1.03–1.36)	0.020
Other Corticoadrenal Disorder	937	0.09	0.861	(0.76–0.98)	0.021
Lupus Erythematosus	954	0.09	1.152	(1.02–1.30)	0.026
Atherosclerosis	1,516	0.14	1.133	(1.01–1.26)	0.027
Lichen	774	0.07	0.849	(0.73–0.98)	0.028
Deep Vein Thrombosis	1,453	0.14	1.123	(1.01–1.25)	0.028
Lacrimal System Disorder	1,711	0.16	0.901	(0.82–0.99)	0.029
Non-Specific Liver Disease	3,469	0.33	1.067	(1.01–1.13)	0.030
Macular Degeneration	844	0.08	1.162	(1.01–1.33)	0.032
Benign Breast Neoplasm	2,004	0.19	1.095	(1.01–1.19)	0.037
Larynx Vocal Chord Disorders	3,427	0.32	0.929	(0.87–1.00)	0.038
Non-Specific Nephropathy	2,436	0.23	1.087	(1.00–1.18)	0.038
Carditis	1,450	0.14	1.105	(1.01–1.22)	0.038
Other Viral Hepatitis	2,589	0.24	1.093	(1.00–1.19)	0.039
Thyrotoxicosis	3,867	0.36	1.079	(1.00–1.16)	0.043
Gout Related Crystal Arthropathies	2,164	0.20	1.094	(1.00–1.19)	0.044
Non-Specific Pulmonary Disorder	28,464	2.69	0.969	(0.94–1.00)	0.048
Non-Specific Peritoneal Disorder	825	0.08	1.138	(1.00–1.29)	0.050

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Intellectual Disability	1,518	0.14	1.109	(1.00–1.23)	0.050
Hereditary Dental Anomaly	1,018	0.10	0.889	(0.79–1.00)	0.053
Non-Specific Nasal Throat Disorder	2,350	0.22	1.084	(1.00–1.18)	0.053
Disorders of Iris Ciliary Body	1,250	0.12	1.119	(1.00–1.26)	0.056
Staphylococcus Aureus Infection	4,700	0.44	1.054	(1.00–1.11)	0.059
Salivary Gland Disease	5,209	0.49	0.954	(0.91–1.00)	0.060
Carbuncle Furuncle	8,667	0.82	1.042	(1.00–1.09)	0.062
Influenza	72,711	6.86	0.981	(0.96–1.00)	0.070
Peritonitis Retroperitoneal Infection	889	0.08	1.119	(0.99–1.27)	0.075
Corneal Disorders	21,580	2.04	1.026	(1.00–1.06)	0.082
Vitamin Deficiency	21,115	1.99	1.026	(1.00–1.06)	0.084
Parasitic Infection	2,188	0.21	0.935	(0.87–1.01)	0.087
Pulmonary Heart Disease	509	0.05	1.144	(0.98–1.34)	0.090
Non-Specific Congenital Integumentary ..	1,431	0.14	0.917	(0.83–1.01)	0.094
Non-Specific Neurologic Congenital Ano..	1,935	0.18	0.923	(0.84–1.02)	0.099
Rheumatoid Arthritis Related Conditions	3,347	0.32	1.062	(0.99–1.14)	0.101
Deviated Nasal Septum	19,977	1.89	0.976	(0.95–1.00)	0.103
Skin Infection	33,216	3.13	0.983	(0.96–1.00)	0.115
Female Genital Congenital Anomaly	1,902	0.18	0.929	(0.85–1.02)	0.116
Thyroiditis	6,115	0.58	1.046	(0.99–1.11)	0.120
Breast Cancer	634	0.06	1.148	(0.96–1.37)	0.121
Non-Specific Vascular Disease	20,008	1.89	1.025	(0.99–1.06)	0.138
Sweat Gland Disorder	1,255	0.12	0.919	(0.82–1.03)	0.141
Syndrome with Pervasive Congenital Ano..	799	0.07	1.099	(0.97–1.25)	0.146
Orbit Disorders	829	0.08	1.099	(0.97–1.25)	0.149
Overweight	9,474	0.89	0.973	(0.94–1.01)	0.152
Sleep Disorder	7,587	0.72	0.967	(0.92–1.01)	0.160

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Lipoprotein Deficiency	573	0.05	0.891	(0.76–1.05)	0.162
Benign Female Genital Neoplasm	2,436	0.23	1.056	(0.98–1.14)	0.168
Phlebitis Thrombophlebitis	1,260	0.12	1.082	(0.97–1.21)	0.172
Choroidal Disorders	542	0.05	0.907	(0.79–1.04)	0.173
Epilepsy Related Disorders	8,408	0.79	1.030	(0.99–1.07)	0.181
Mixed Hyperlipidemia	6,436	0.61	1.030	(0.99–1.08)	0.192
Fasciitis	15,761	1.49	0.976	(0.94–1.01)	0.196
General Bacterial Infection	8,965	0.85	1.030	(0.98–1.08)	0.199
Hereditary Hemoglobin Disease	722	0.07	1.112	(0.95–1.31)	0.201
Acute Upper Respiratory Infection	344,319	32.50	0.994	(0.98–1.00)	0.203
Celiac Disease	515	0.05	0.906	(0.78–1.06)	0.204
Sebaceous Gland Disorder	3,169	0.30	0.959	(0.90–1.02)	0.219
General Thrombocytopenia	3,308	0.31	1.047	(0.97–1.13)	0.229
Septicemia	1,982	0.19	1.058	(0.97–1.16)	0.229
Non-Hodgkins Lymphoma	645	0.06	0.907	(0.77–1.06)	0.232
Purpura Other Hemorrhagic Conditions	1,500	0.14	1.062	(0.96–1.17)	0.238
Keratosi	5,954	0.56	0.969	(0.92–1.02)	0.243
Parathyroid Disorder	514	0.05	1.092	(0.94–1.27)	0.244
Autonomic System Disorder	934	0.09	0.928	(0.82–1.05)	0.247
Aneurysm	1,072	0.10	0.938	(0.84–1.05)	0.260
Acquired Other Myopathies	500	0.05	1.106	(0.92–1.32)	0.270
Unspecified Endocrine Disorder	3,336	0.32	0.963	(0.90–1.03)	0.277
Chronic Pruritus	14,686	1.39	1.019	(0.99–1.05)	0.280
Addisons Disease	815	0.08	1.073	(0.94–1.22)	0.285
Female Genital Cancer	520	0.05	1.096	(0.92–1.30)	0.293
Peripheral Vascular Disease	4,516	0.43	0.971	(0.92–1.03)	0.300
Unspecified Middle Ear Mastoid Diseases	575	0.05	1.105	(0.91–1.34)	0.303

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Emphysema COPD	5,197	0.49	1.030	(0.97–1.09)	0.320
Paranoia	571	0.05	0.925	(0.79–1.08)	0.320
Corns Callosites	1,305	0.12	0.952	(0.86–1.05)	0.325
Non-Specific Thyroid Disorder	4,253	0.40	1.030	(0.97–1.09)	0.328
Nail Disease	37,421	3.53	0.990	(0.97–1.01)	0.331
Cystic Fibrosis	505	0.05	1.082	(0.92–1.27)	0.339
Congenital Spine Anomaly	4,609	0.43	0.976	(0.93–1.03)	0.356
Oral Soft Tissue Disease	22,439	2.12	0.987	(0.96–1.01)	0.360
Ulcerative Colitis	2,626	0.25	1.037	(0.96–1.12)	0.362
Speech Language Disorder	4,711	0.45	0.972	(0.92–1.03)	0.366
Disease of the Male Reproductive Organs	30,893	2.92	1.010	(0.99–1.03)	0.370
Cataplexy Narcolepsy	911	0.09	1.061	(0.93–1.21)	0.376
Other Infectious Diseases	2,724	0.26	1.033	(0.96–1.11)	0.394
Crohns Disease	3,213	0.30	0.972	(0.91–1.04)	0.407
Photodermatitis	10,234	0.97	0.982	(0.94–1.02)	0.411
Unspecified Plasma Protein Metabolism ..	1,911	0.18	1.040	(0.95–1.14)	0.414
Pulmonary Embolism Infarction	571	0.05	1.072	(0.91–1.27)	0.415
Congenital Breast Anomaly	720	0.07	1.067	(0.91–1.25)	0.422
Congenital Pigmentary Anomaly	590	0.06	1.073	(0.90–1.28)	0.427
Hearing Loss	25,138	2.37	1.010	(0.99–1.04)	0.428
Benign Endocrine Neoplasm	742	0.07	1.059	(0.91–1.23)	0.450
Graves Disease	1,298	0.12	1.040	(0.94–1.15)	0.459
Schizophrenia Related Psychosis	6,182	0.58	0.980	(0.93–1.03)	0.465
Multiple Sclerosis Other Demyelinating..	564	0.05	1.061	(0.90–1.24)	0.466
Inner Ear Disorder	1,931	0.18	1.035	(0.94–1.14)	0.466
Atopic Contact Dermatitis	171,905	16.23	0.996	(0.98–1.01)	0.470
Psoriasis Related Disorders	18,324	1.73	0.990	(0.96–1.02)	0.479

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Cardiomyopathy	1,182	0.11	1.043	(0.93–1.17)	0.481
Tuberculosis	1,068	0.10	0.956	(0.84–1.08)	0.482
Unspecified Hyperlipidemia	19,543	1.84	1.013	(0.98–1.05)	0.486
Benign CNS Neoplasm	672	0.06	1.052	(0.91–1.22)	0.495
Non-Specific Prostate Disease	924	0.09	1.049	(0.91–1.20)	0.501
Haemophilia Related Diseases	1,237	0.12	0.962	(0.86–1.08)	0.511
Psychogenic Somatoform Disorder	3,428	0.32	1.027	(0.95–1.11)	0.511
Conjunctival Disorders	6,892	0.65	0.983	(0.94–1.03)	0.517
Vasculitis	775	0.07	1.044	(0.91–1.19)	0.523
Unspecified Benign Neoplasm	2,029	0.19	1.031	(0.94–1.13)	0.525
Non-Specific Humoral Deficiency	633	0.06	1.048	(0.90–1.22)	0.534
Eyelid Disorders	2,658	0.25	0.976	(0.90–1.05)	0.536
General Dementia	646	0.06	0.950	(0.80–1.12)	0.545
Unspecified Autoimmune Disease	1,065	0.10	0.961	(0.85–1.09)	0.549
Cataract	1,455	0.14	1.030	(0.93–1.14)	0.556
Lipoma	3,739	0.35	1.018	(0.96–1.08)	0.574
Upper Respiratory Inflammation	207,072	19.54	1.004	(0.99–1.02)	0.601
Osteoporosis	1,136	0.11	1.029	(0.92–1.15)	0.620
Optic Neuritis Neuropathy	2,542	0.24	0.980	(0.90–1.06)	0.624
Spinal Chord Degeneration	842	0.08	1.035	(0.90–1.19)	0.627
Extrapyramidal Abnormal Movement Disor..	5,720	0.54	0.987	(0.93–1.04)	0.630
Brain Cancer	505	0.05	1.044	(0.87–1.25)	0.633
Benign Male Genital Neoplasm	565	0.05	0.963	(0.82–1.13)	0.635
Unspecified Congenital Anomaly	1,280	0.12	0.973	(0.87–1.09)	0.636
Cerebrovascular Disease	3,964	0.37	1.016	(0.95–1.09)	0.655
CNS Cancer	773	0.07	1.031	(0.90–1.18)	0.658
Urethral Disorder	851	0.08	0.968	(0.84–1.12)	0.665

Disease	<i>N</i> cases	Prev.%	Strict OR	Strict 95% CI	Strict <i>P</i>
Non-Specific Hemoglobinopathies	710	0.07	0.974	(0.86–1.10)	0.678
Lactose Intolerance	2,448	0.23	0.985	(0.91–1.06)	0.688
Glaucoma	7,931	0.75	0.991	(0.94–1.04)	0.694
Pituitary Disorder	2,342	0.22	0.983	(0.90–1.07)	0.701
Myeloproliferative Disease	1,413	0.13	1.019	(0.92–1.13)	0.707
Acquired Limb Deformities	1,415	0.13	0.980	(0.88–1.10)	0.723
Cranial Nerve Disorder	7,159	0.68	0.992	(0.95–1.04)	0.730
Unspecified Immune Disorder	3,586	0.34	1.011	(0.95–1.07)	0.730
Cardiac Conduction Disorder	3,101	0.29	1.011	(0.94–1.09)	0.752
Unspecified Hematological Disorder	1,891	0.18	0.987	(0.90–1.08)	0.779
Type I Diabetes Mellitus	2,230	0.21	1.013	(0.92–1.11)	0.786
Benign Bone Connective Tissue Neoplasm	6,335	0.60	1.006	(0.96–1.05)	0.792
Metabolic Syndrome X	4,533	0.43	1.008	(0.95–1.07)	0.805
Vascular Congenital Anomaly	2,324	0.22	0.991	(0.92–1.07)	0.821
Tongue Disease	2,146	0.20	1.008	(0.94–1.08)	0.824
Sleep Apnea	7,138	0.67	1.005	(0.96–1.05)	0.826
Encephalitis	527	0.05	0.984	(0.84–1.16)	0.842
Non-Specific Digestive Congenital Anom..	865	0.08	1.013	(0.89–1.15)	0.843
Menopausal Disorder	1,288	0.12	0.991	(0.89–1.11)	0.879
Optic Disc Disorder	1,541	0.14	0.992	(0.88–1.12)	0.894
Unspecified Immune Deficiency	1,384	0.13	0.993	(0.90–1.10)	0.899
Cardiac Congenital Anomaly	7,688	0.73	0.998	(0.96–1.04)	0.935
Unspecified Neuropsychiatric Disorder	4,454	0.42	0.998	(0.94–1.06)	0.938
Benign Oropharyngeal Neoplasm	2,889	0.27	0.998	(0.93–1.08)	0.951
General Paralysis	641	0.06	0.999	(0.86–1.17)	0.991

Supplementary Table 12: **Matching balance for the stricter clinical rematch.** Pre- and post-matching means, standard deviations, and standardized mean differences (SMD) for the strict clinical rematch cohort ($N = 529,760$ pairs). Exact matching on sex, birth year, Census division, urbanization, age at start, sibling age gap, and baseline Charlson comorbidity index; caliper matching on days visible (± 50), paternal age (± 1 year), maternal age (± 1 year), and baseline MDBI (± 0.1). Post-match parental age SMDs are reduced to near zero (< 0.02), compared with -0.30 and -0.36 in the primary match (Supplementary Table 2).

Variable	Pre-match					Post-match				
	Mean ₁	SD ₁	Mean ₂	SD ₂	SMD	Mean ₁	SD ₁	Mean ₂	SD ₂	SMD
Days visible	1,455	1,267	1,666	1,379	-0.159	1,690	1,408	1,690	1,408	0.000
Paternal age	31.4	5.4	35.0	5.5	-0.655	32.3	4.2	32.4	4.2	-0.008
Maternal age	29.4	5.0	32.9	5.0	-0.714	30.6	3.9	30.7	3.9	-0.012
Age gap	3.66	2.58	3.66	2.58	0.000	2.75	1.12	2.75	1.12	0.000
Sex	1.48	0.50	1.50	0.50	-0.028	1.48	0.50	1.48	0.50	0.000
Birth year	1,993	6.1	1,997	6.1	-0.603	1,992	4.8	1,992	4.8	0.000
Charlson index	0.05	0.34	0.06	0.33	-0.006	0.002	0.04	0.002	0.04	0.000
MDBI	0.009	0.04	0.009	0.04	0.007	0.005	0.02	0.004	0.02	0.042

Supplementary Table 13: **Healthcare utilization sensitivity analysis.** Birth-order ORs before and after adjusting for log-transformed visit count ($\log(n_{\text{visits}} + 1)$) in the strict clinical cohort (529,760 pairs). The visit-count OR reflects the association between healthcare utilization and disease diagnosis. Across all 318 analyzable diseases, unadjusted and visit-adjusted birth-order $\log_2(\text{OR})$ estimates are highly concordant ($r = 0.99$).

Disease	<i>N</i> cases	Strict OR (95% CI)	Visit-adj. OR (95% CI)	Visit OR
<i>Neurodevelopmental / psychiatric</i>				
Other/unspecified PDD codes	5,002	0.557 (0.524–0.591)	0.609 (0.573–0.646)	3.91
Autism	4,745	0.799 (0.752–0.849)	0.880 (0.828–0.935)	3.42
Tics/Tourette	4,238	0.704 (0.661–0.750)	0.758 (0.711–0.809)	2.50
OCD	7,972	0.771 (0.741–0.803)	0.810 (0.777–0.844)	3.68
ADHD	88,575	0.917 (0.903–0.932)	0.956 (0.940–0.971)	2.44
Depression	76,913	0.963 (0.948–0.979)	1.000 (0.984–1.016)	3.49
<i>Immune-allergic</i>				
Food allergy	9,376	0.823 (0.791–0.857)	0.869 (0.834–0.906)	2.57
Allergic rhinitis	198,136	0.895 (0.885–0.906)	0.924 (0.912–0.936)	2.30
Asthma	99,808	0.970 (0.956–0.984)	1.008 (0.992–1.023)	2.14
<i>Other</i>				
Acne	224,010	0.822 (0.814–0.829)	0.830 (0.821–0.838)	2.02
Substance abuse	47,608	1.196 (1.171–1.221)	1.236 (1.210–1.263)	2.27
Obesity	27,152	1.062 (1.037–1.088)	1.096 (1.070–1.123)	1.70
Migraine	45,080	1.134 (1.110–1.159)	1.171 (1.145–1.198)	2.44
Herpes zoster	7,250	1.377 (1.315–1.442)	1.395 (1.330–1.463)	1.62

Visit OR = odds ratio for log-transformed visit count; values > 1 indicate that more healthcare contact is associated with higher diagnosis probability. First-borns average 24.0 distinct claim days vs. 22.9 for second-borns (median 11 vs. 10).

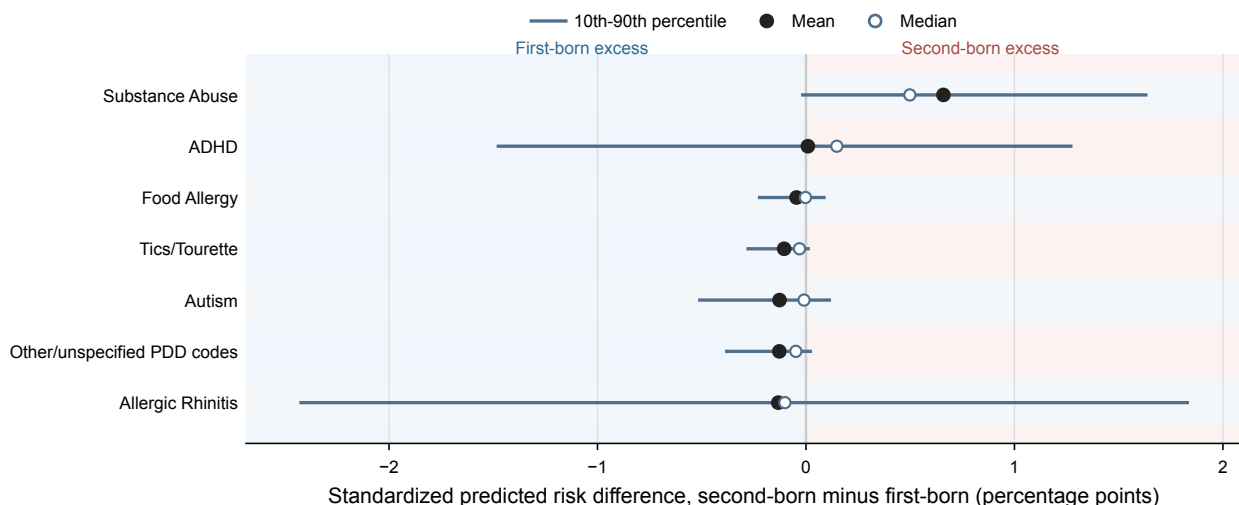
Supplementary Table 14: **Sex-stratified birth-order associations for selected diseases.** Between-family ORs estimated separately in males and females from the strict clinical cohort, omitting sex from the covariate set within each stratum. Minimum 200 cases per stratum. Across 310 diseases analyzable in both sexes, male and female $\log_2(\text{OR})$ estimates are moderately correlated ($r = 0.65$, $P = 6.6 \times 10^{-39}$). 67 diseases reach Bonferroni significance in males and 72 in females ($\alpha = 0.05/310 = 1.6 \times 10^{-4}$).

Disease	N_M	N_F	Male OR (95% CI)	Female OR (95% CI)
<i>Neurodevelopmental</i>				
Other/unspecified PDD codes	4,039	963	0.560 (0.526–0.596)	0.545 (0.479–0.619)
Autism	3,659	1,086	0.783 (0.736–0.834)	0.852 (0.755–0.963)
Tics/Tourette	3,148	1,090	0.698 (0.650–0.751)	0.721 (0.641–0.812)
OCD	3,971	4,001	0.728 (0.682–0.776)	0.816 (0.773–0.862)
ADHD	57,731	30,844	0.880 (0.862–0.899)	0.984 (0.961–1.008)
Developmental delay	2,637	1,410	0.799 (0.743–0.859)	0.961 (0.861–1.073)
<i>Psychiatric</i>				
Anxiety/phobia	41,095	59,769	0.866 (0.846–0.886)	0.945 (0.928–0.963)
Depression	31,527	45,386	0.908 (0.886–0.930)	1.006 (0.986–1.027)
Bipolar disorder	7,024	7,497	0.897 (0.854–0.942)	0.934 (0.892–0.979)
Substance abuse	28,794	18,814	1.158 (1.127–1.189)	1.256 (1.218–1.295)
<i>Immune-allergic / other</i>				
Allergic rhinitis	99,248	98,888	0.859 (0.847–0.872)	0.933 (0.916–0.950)
Food allergy	4,512	4,864	0.773 (0.729–0.820)	0.872 (0.817–0.930)
Asthma	50,807	49,001	0.945 (0.926–0.965)	0.996 (0.977–1.015)
Acne	105,152	118,858	0.801 (0.790–0.812)	0.841 (0.830–0.852)
Ear infection	100,491	103,798	0.958 (0.945–0.972)	0.992 (0.977–1.006)
Obesity	11,976	15,176	1.009 (0.973–1.046)	1.106 (1.072–1.141)
Migraine	14,166	30,914	1.079 (1.042–1.117)	1.162 (1.135–1.189)
Herpes zoster	3,454	3,796	1.363 (1.273–1.460)	1.390 (1.304–1.480)

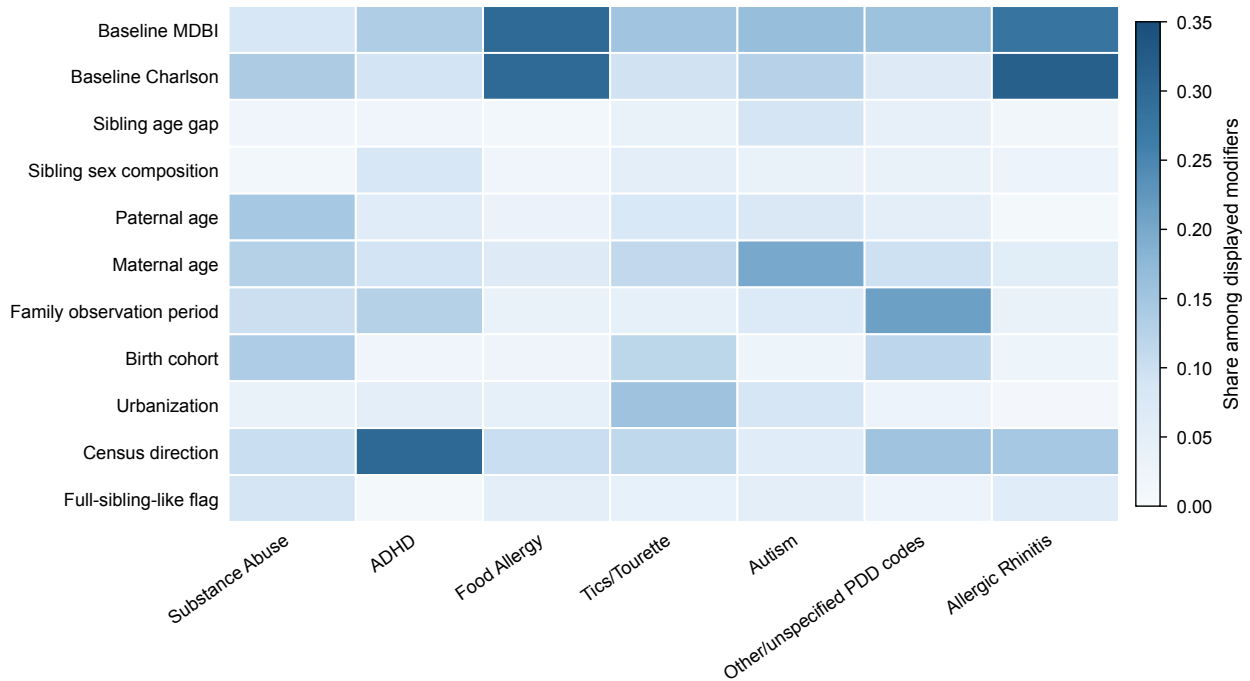
3 Supplementary Figures and Additional Heterogeneity Table

As an exploratory heterogeneous-effect analysis, we added a full-cohort adjusted T-learner for seven high-priority diseases. The analysis used all 5,135,006 two-child families and estimated standardized second-born-minus-first-born risk differences after modeling first-born and second-born outcome risks separately with flexible gradient-boosted logistic models. Models included individual age, follow-up, sex, birth-year, calendar-period, and ICD-era covariates, plus family-level modifiers including sibling age gap, sibling-sex composition, paternal and maternal age, baseline comorbidity summaries, urbanization, census geography, full-sibling-like status, and family observation period. These analyses are descriptive modifier-discovery analyses and do not replace the disease-level Bonferroni-corrected odds-ratio analyses.

Supplementary Figure 1: **Exploratory adjusted T-learner standardized risk-difference distributions.** Each row summarizes the distribution of standardized family-level second-born-minus-first-born predicted risk differences for one high-priority disease. Negative values indicate predicted first-born excess after standardization; positive values indicate predicted second-born excess. The ADHD distribution spans both directions with a near-null mean, whereas autism, food allergy, allergic rhinitis, tics/Tourette syndrome, and the other/unspecified PDD code group show negative mean standardized contrasts, and substance abuse shows a positive mean standardized contrast. Distributions summarize family-level predicted contrasts across all $n = 5,135,006$ two-child families; per-disease case and discordant-pair counts are listed in Supplementary Table 15. The x-axis is the standardized second-born-minus-first-born risk difference in percentage points; the y-axis lists the seven high-priority diseases (one row per disease). Within each row, the filled circle marks the mean and the open circle the median of that disease’s family-level predicted-contrast distribution, and the horizontal line spans the 10th to 90th percentile of the same distribution. These are descriptive, exploratory model summaries: the horizontal line is a percentile spread of the predicted contrasts across families, not an inferential confidence interval or error bar, and no null-hypothesis significance test is performed.



Supplementary Figure 2: **Exploratory adjusted T-learner variable-group importance.** Mean split-gain importance is summarized by prespecified covariate group across the first-born and second-born outcome models for each disease. Individual age, follow-up, and period covariates are excluded from the displayed modifiers because they absorb major ascertainment and time-at-risk structure before evaluating heterogeneity by sibling gap, sibling-sex composition, parental age, baseline comorbidity, geography, and observation-period modifiers. Importances are mean per-feature split-gain contributions aggregated within each prespecified covariate group and normalized within each model. Rows are the displayed family-level modifier groups and columns are the seven high-priority diseases; for each disease, a group’s cell value is its mean split-gain share across the first-born and second-born gradient-boosted outcome models ($n = 2$ models per disease), each trained on all $n = 5,135,006$ two-child families. Cell colour encodes the normalized group split-gain share (unitless), as indicated by the colour bar; there is no quantitative x-axis. Each cell is a single deterministic model-diagnostic summary rather than a statistic estimated over independent replicates, so error bars, overlaid dot plots, and significance tests are not applicable.



Supplementary Table 15: **Exploratory adjusted T-learner heterogeneity analysis.** Observed contrast is the raw mean disease-risk difference for second-born minus first-born children in the full two-child cohort. Adjusted standardized contrasts are model-based second-born-minus-first-born predicted risk differences averaged over both observed sibling covariate profiles within each family. Values are percentage-point risk differences. Negative values indicate first-born excess; positive values indicate second-born excess. Source data for this table are provided with the supplementary source-data files.

Disease	<i>N</i> cases	<i>N</i> discordant	Observed RD	Adjusted mean RD	Adjusted p10	Adjusted median	Adjusted p90
ADHD	820,278	619,278	1.134	0.009	-1.484	0.148	1.278
Allergic rhinitis	1,817,758	1,160,954	3.247	-0.133	-2.430	-0.101	1.837
Autism	95,065	78,643	0.132	-0.127	-0.517	-0.009	0.120
Food allergy	85,286	75,258	0.191	-0.045	-0.231	-0.003	0.094
Substance abuse	541,354	452,072	-0.891	0.659	-0.023	0.498	1.638
Tics/Tourette	46,659	44,277	0.110	-0.105	-0.286	-0.031	0.019
Other/unspecified PDD codes	46,640	43,624	-0.025	-0.128	-0.388	-0.049	0.028