# **Supplemental Table 1.** ICD 9/10 codes used for defining depression with prevalence listed within the Mayo Clinic Biobank.

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| --- | --- | --- | --- | --- |
| **ICD9/10** | **ICD** | **Phecode** | **Description** | **MCB**  **prev** |
| 296.2 | ICD9 | 296.22 | Major depressive disorder, single episode | 0.0% |
| 296.2 | ICD9 | 296.22 | Major depressive disorder, single episode, unspecified degree | 6.0% |
| 296.21 | ICD9 | 296.2 | Major depressive disorder, single episode, mild degree | 0.9% |
| 296.22 | ICD9 | 296.22 | Major depressive disorder, single episode, moderate degree | 1.7% |
| 296.23 | ICD9 | 296.22 | Major depressive disorder, single episode, severe degree, w/o psychosis | 0.5% |
| 296.24 | ICD9 | 296.22 | Major depressive disorder, single episode, severe degree, spec. psychosis | 0.1% |
| 296.25 | ICD9 | 296.22 | Major depressive disorder, single episode, in partial or unspec. remission | 1.0% |
| 296.26 | ICD9 | 296.22 | Major depressive disorder, single episode in full remission | 1.2% |
| 296.3 | ICD9 | 296.22 | Major depressive disorder, recurrent episode | 0.0% |
| 296.3 | ICD9 | 296.22 | Major depressive disorder, recurrent episode, unspecified degree | 2.8% |
| 296.31 | ICD9 | 296.2 | Major depressive disorder, recurrent episode, mild degree | 2.5% |
| 296.32 | ICD9 | 296.22 | Major depressive disorder, recurrent episode, moderate degree | 4.1% |
| 296.33 | ICD9 | 296.22 | Major depressive disorder, recurrent episode, severe degree, wo psychosis | 1.7% |
| 296.34 | ICD9 | 296.22 | Major depressive disorder, rec episode, severe degree, spec. psychosis | 0.2% |
| 296.35 | ICD9 | 296.22 | Major depressive disorder, recurrent episode, in partial/unspec. remission | 2.3% |
| 296.36 | ICD9 | 296.22 | Major depressive disorder, recurrent episode, in full remission | 2.3% |
| 311 | ICD9 | 296.2 | Depressive disorder NEC | 18.1% |
| 300.4 | ICD9 | 300.4 | Dysthymic disorder | 6.9% |
| 298.0 | ICD9 | 295.3 | Depressive type psychosis | 0.0% |
| 296.82 | ICD9 | 296.1 | Atypical depressive disorder | 0.0% |
| F32 | ICD10 | 296.22 | Major depressive disorder, single episode | 0.0% |
| F32.0 | ICD10 | 296.22 | Major depressive disorder, single episode, mild | 0.8% |
| F32.1 | ICD10 | 296.22 | Major depressive disorder, single episode, moderate | 1.4% |
| F32.2 | ICD10 | 296.22 | Major depressive disorder, single episode, severe w/o psychotic features | 0.4% |
| F32.3 | ICD10 | 296.22 | Major depressive disorder, single episode, severe with psychotic features | 0.0% |
| F32.4 | ICD10 | 296.22 | Major depressive disorder, single episode, in partial remission | 0.5% |
| F32.5 | ICD10 | 296.22 | Major depressive disorder, single episode, in full remission | 1.1% |
| F32.8 | ICD10 | 296.22 | Other depressive episodes | 0.1% |
| F32.89 | ICD10 | 296.22 | Single episode of 'masked' depression NOS | 0.0% |
| F32.9 | ICD10 | 296.22 | Major depressive disorder, single episode, unspecified | 13.8% |
| F33 | ICD10 | 296.22 | Major depressive disorder, recurrent | 3.1% |
| F33.0 | ICD10 | 296.22 | Major depressive disorder, recurrent, mild | 0.0% |
| F33.1 | ICD10 | 296.22 | Major depressive disorder, recurrent, moderate | 4.7% |
| F33.2 | ICD10 | 296.22 | Major depressive disorder, recurrent severe without psychotic features | 1.6% |
| F33.3 | ICD10 | 296.22 | Major depressive disorder, recurrent, severe with psychotic symptoms | 0.1% |
| F33.4 | ICD10 | 296.22 | Major depressive disorder, recurrent, in remission | 0.4% |
| F33.40 | ICD10 | 296.22 | Major depressive disorder, recurrent, in remission, unspecified | - |
| F33.41 | ICD10 | 296.22 | Major depressive disorder, recurrent, in partial remission | 2.2% |
| F33.42 | ICD10 | 296.22 | Major depressive disorder, recurrent, in full remission | 2.9% |
| F33.8 | ICD10 | 296.22 | Other recurrent depressive disorders | 0.0% |
| F33.9 | ICD10 | 296.22 | Major depressive disorder, recurrent, unspecified | 2.2% |
| F34.1 | ICD10 | 300.4 | Dysthymic disorder | 1.5% |

# **Supplemental Table 2.** ICD 9/10 codes used for defining anxiety with prevalence listed among Mayo Clinic Biobank.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ICD9/10** | **ICD** | **PheCode** | **ICD9 String** | **MCB**  **prev** |
| 293.84 | ICD9 | 300.1 | Anxiety disorder in conditions classified elsewhere | 0.6% |
| 300 | ICD9 | 300.1 | Anxiety states | 15.6% |
| 300 | ICD9 | 300.1 | Anxiety state unspecified | 0.0% |
| 300.01 | ICD9 | 300.12 | Panic disorder without agoraphobia | 1.6% |
| 300.02 | ICD9 | 300.11 | Generalized anxiety disorder | 4.2% |
| 300.09 | ICD9 | 300.1 | Other anxiety states | 0.2% |
| 300.2 | ICD9 | 300.13 | Phobia unspecified | 0.0% |
| 300.21 | ICD9 | 300.12 | Agoraphobia with panic disorder | 0.5% |
| 300.22 | ICD9 | 300.12 | Agoraphobia without mention of panic attacks | 0.1% |
| 300.23 | ICD9 | 300.12 | Social phobia | 0.4% |
| 300.29 | ICD9 | 300.13 | Other isolated or specific phobias | 0.4% |
| 309.21 | ICD9 | 313 | Separation anxiety disorder | 0.0% |
| F06.4 | ICD10 | 300.1 | Organic anxiety disorder | 0.4% |
| F40 | ICD10 | 300.13 | Phobic anxiety disorders | 0.0% |
| F40.0 | ICD10 | 300.12 | Agoraphobia | 0.2% |
| F40.1 | ICD10 | 300.12 | Social phobias | 0.2% |
| F40.2 | ICD10 | 300.13 | Specific (isolated) phobias | 0.3% |
| F40.8 | ICD10 | 300.13 | Other phobic anxiety disorders | - |
| F40.9 | ICD10 | 300.13 | Phobic anxiety disorder, unspecified | 0.0% |
| F41.0 | ICD10 | 300.12 | Panic disorder [episodic paroxysmal anxiety] | 0.7% |
| F41.1 | ICD10 | 300.11 | Generalized anxiety disorder | 4.7% |
| F41.2 | ICD10 | 300.1 | Mixed anxiety and depressive disorder | - |
| F41.3 | ICD10 | 300.1 | Other mixed anxiety disorders | 0.0% |
| F41.8 | ICD10 | 300.1 | Other specified anxiety disorders | 4.3% |
| F41.9 | ICD10 | 300.1 | Anxiety disorder, unspecified | 10.2% |

Supplemental Tables 3-6 in supplementary\_tables\_formatted.xlsx

Supplemental Table 3: Comorbid v Isolated MDD

*Total N=11781. Bold text indicates significant associations identified by Phe2WAS that were also selected by the LASSO.*

Supplemental Table 4: MDD-only v ANX-only

*Total N=8447. Bold text indicates significant associations identified by Phe2WAS that were also selected by the LASSO.*

Supplemental Table 5: MDD-only v ANX-only (before Dx)

*Total N=7838. Bold text indicates significant associations identified by Phe2WAS that were also selected by the LASSO.*

Supplemental Table 6: MDD-only v ANX-only (after Dx)

*Total N=7791. Bold text indicates significant associations identified by Phe2WAS that were also selected by the LASSO.*