This dataset is created based on Gen 3/Omni 2/NOS FHS participants’ **self-reported** information from Exam 1 to Exam 3.

The following is the timeline for related questions found in individual FHS core exams (N = No, Y = Yes):

|  |  |  |  |
| --- | --- | --- | --- |
| FHS Core Exam | 1 | 2 | 3 |
| Antidepressants | Y | Y | Y |
| Anxiolytics | Y | Y | Y |
| Hypnotics | Y | Y | Y |

* For all Gen 3/NOS/Omni 2 medication data, they are ATC (Anatomical Therapeutic Chemical Classification System) -coded. For in depth information, refer to appendix.

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|  |
| --- |
| **IDTYPE** |

**Variable name:** idtype

**Description:** Framingham Heart Study cohort identifier

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 2 | New Offspring Spouse Cohort |
| 3 | Generation 3 Cohort |
| 72 | Omni 2 Cohort |

|  |
| --- |
| **ID** |

**Variable name:** id

**Description:** Framingham Heart Study participant identifier within cohort

|  |
| --- |
| **IDTYPE and ID must be used together to form a unique study participant identification number or use variable “framid” instead** |

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 – 9999 | Range of values |

**Note:** To preserve confidentiality, the exact range for the ID is not reflected in the coding manual.

|  |
| --- |
| **FRAMID** |

**Variable name:** Framid

**Description:** Framingham ID assigned to each participant

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 00000 – 99999 | Gen 1 |

**Note:** To preserve confidentiality, the exact range for the ID is not reflected in the coding manual.

**ANTIDEPRESSANTS\_CORE1**

**Variable name:** antidepressants\_core1

**Description:** Interim history of antidepressant medication use in exam 1

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No antidepressant usage |
| 1 | Antidepressant usage |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on ATC coded datasets. Refer to appendix/R code for more information.

**ANTIDEPRESSANTS\_CORE2**

**Variable name:** antidepressants\_core2

**Description:** Interim history of antidepressant medication use in exam 2

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No antidepressant usage |
| 1 | Antidepressant usage |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on ATC coded datasets. Refer to appendix/R code for more information.

**ANTIDEPRESSANTS\_CORE3**

**Variable name:** antidepressants\_core3

**Description:** Interim history of antidepressant medication use in exam 3

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No antidepressant usage |
| 1 | Antidepressant usage |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on ATC coded datasets. Refer to appendix/R code for more information.

**CDI\_DEPRESSION\_CORE1**

**Variable name:** cdi\_depression\_core1

**Description:** Clinical diagnostic impression: Depression in exam 1

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No clinical diagnostic impression for depression |
| 1 | Clinical diagnostic impression for depression |
| . | Did not attend exam |

**Note:** This variable is based on the variable G3A426 in FHS core exam 1 (Gen 3):

CDI – DEPRESSION

0 – NO

1 – YES

2 – MAYBE

 . – UNKNOWN

Values 0 and 2 are recoded as 0; 1 is recoded as 1

The response of “.” as well as participants who did not attend exam are coded as .

**CDI\_DEPRESSION\_CORE2**

**Variable name:** cdi\_depression\_core2

**Description:** Clinical diagnostic impression: Depression in exam 2

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No clinical diagnostic impression for depression |
| 1 | Clinical diagnostic impression for depression |
| . | Did not attend exam |

**Note:** This variable is based on the variable G3B0448 in FHS core exam 2 (Gen 3):

CDI – DEPRESSION

0 – NO

1 – YES

2 – MAYBE

 . – UNKNOWN

Values 0 and 2 are recoded as 0; 1 is recoded as 1

The response of “.” as well as participants who did not attend exam are coded as .

**CDI\_DEPRESSION\_CORE3**

**Variable name:** cdi\_depression\_core3

**Description:** Clinical diagnostic impression: Depression in exam 3

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No clinical diagnostic impression for depression |
| 1 | Clinical diagnostic impression for depression |
| . | Did not attend exam |

**Note:** This variable is based on the variable G3C0639 in FHS core exam 3 (Gen 3):

CDI – DEPRESSION

0 – NO

1 – YES

2 – MAYBE

 . – UNKNOWN

Values 0 and 2 are recoded as 0; 1 is recoded as 1

The response of “.” as well as participants who did not attend exam are coded as .

**DEPRESSION\_CORE1**

**Variable name:** depression\_core1

**Description:** Derived variable for depression in exam 1, based on anti-depressant medications and clinical diagnostic impression for exam 1

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No depression |
| 1 | Depression present |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on the variable antidepressants\_core1 and CDI\_depression\_core1 in FHS core exam 1 (Gen 3). Refer to appendix/R code for more information.

**DEPRESSION\_CORE2**

**Variable name:** depression\_core2

**Description:** Derived variable for depression in exam 2, based on anti-depressant medications and clinical diagnostic impression for exam 2

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No depression |
| 1 | Depression present |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on the variable antidepressants\_core2 and CDI\_depression\_core2 in FHS core exam 2 (Gen 3). Refer to appendix/R code for more information.

**DEPRESSION\_CORE3**

**Variable name:** depression\_core3

**Description:** Derived variable for depression in exam 3, based on anti-depressant medications and clinical diagnostic impression for exam 3

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No depression |
| 1 | Depression present |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on the variable antidepressants\_core3 and CDI\_depression\_core3 in FHS core exam 2 (Gen 3). Refer to appendix/R code for more information.

**ANXIOLYTICS\_CORE1**

**Variable name:** anxiolytics\_core1

**Description:** Interim history of anti-anxiety medication use in exam 1

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No anti-anxiety medication usage |
| 1 | Anti-anxiety medication usage |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on ATC coded datasets. Refer to appendix/R code for more information.

**ANXIOLYTICS\_CORE2**

**Variable name:** anxiolytics\_core2

**Description:** Interim history of anti-anxiety medication use in exam 2

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No anti-anxiety medication usage |
| 1 | Anti-anxiety medication usage |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on ATC coded datasets. Refer to appendix/R code for more information.

**ANXIOLYTICS\_CORE3**

**Variable name:** anxiolytics\_core3

**Description:** Interim history of anti-anxiety medication use in exam 3

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No anti-anxiety medication usage |
| 1 | Anti-anxiety medication usage |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on ATC coded datasets. Refer to appendix/R code for more information.

**CDI\_ANXIETY\_CORE1**

**Variable name:** cdi\_anxiety\_core1

**Description:** Clinical diagnostic impression: Anxiety in exam 1

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No clinical diagnostic impression for anxiety |
| 1 | Clinical diagnostic impression for anxiety |
| . | Did not attend exam |

**Note:** This variable is based on the variable G3A427 in FHS core exam 1 (Gen 3):

CDI – ANXIETY

0 – NO

1 – YES

2 – MAYBE

 . – UNKNOWN

Values 0 and 2 are recoded as 0; 1 is recoded as 1

The response of “.” as well as participants who did not attend exam are coded as .

**CDI\_ANXIETY\_CORE2**

**Variable name:** cdi\_anxiety\_core2

**Description:** Clinical diagnostic impression: Anxiety in exam 2

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No clinical diagnostic impression for anxiety |
| 1 | Clinical diagnostic impression for anxiety |
| . | Did not attend exam |

**Note:** This variable is based on the variable G3B0449 in FHS core exam 2 (Gen 3):

CDI – ANXIETY

0 – NO

1 – YES

2 – MAYBE

 . – UNKNOWN

Values 0 and 2 are recoded as 0; 1 is recoded as 1

The response of “.” as well as participants who did not attend exam are coded as .

**CDI\_ANXIETY\_CORE3**

**Variable name:** cdi\_anxiety\_core3

**Description:** Clinical diagnostic impression: Anxiety in exam 3

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No clinical diagnostic impression for anxiety |
| 1 | Clinical diagnostic impression for anxiety |
| . | Did not attend exam |

**Note:** This variable is based on the variable G3C0640 in FHS core exam 3 (Gen 3):

CDI – ANXIETY

0 – NO

1 – YES

2 – MAYBE

 . – UNKNOWN

Values 0 and 2 are recoded as 0; 1 is recoded as 1

The response of “.” as well as participants who did not attend exam are coded as .

**ANXIETY\_CORE1**

**Variable name:** anxiety\_core1

**Description:** Derived variable for anxiety in exam 1, based on anxiolytic medications and clinical diagnostic impression for exam 1

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No depression |
| 1 | Depression present |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on the variable anxiolytics\_core1 and CDI\_anxiety\_core1 in FHS core exam 1 (Gen 3). Refer to appendix/R code for more information.

**ANXIETY\_CORE2**

**Variable name:** anxiety\_core2

**Description:** Derived variable for anxiety in exam 2, based on anxiolytic medications and clinical diagnostic impression for exam 2

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No depression |
| 1 | Depression present |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on the variable anxiolytics\_core2 and CDI\_anxiety\_core2 in FHS core exam 2 (Gen 3). Refer to appendix/R code for more information.

**ANXIETY\_CORE3**

**Variable name:** anxiety\_core3

**Description:** Derived variable for anxiety in exam 3, based on anxiolytic medications and clinical diagnostic impression for exam 3

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No depression |
| 1 | Depression present |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on the variable anxiolytics\_core3 and CDI\_anxiety\_core3 in FHS core exam 3 (Gen 3). Refer to appendix/R code for more information.

**HYPNOTICS\_CORE1**

**Variable name:** hypnotics\_core1

**Description:** Interim history of hypnotic medication (sleeping pill) use in exam 1

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No hypnotic medication usage |
| 1 | Hypnotic medication usage |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on ATC coded datasets. Refer to appendix/R code for more information.

**HYPNOTICS\_CORE2**

**Variable name:** hypnotics\_core2

**Description:** Interim history of hypnotic medication (sleeping pill) use in exam 2

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No hypnotic medication usage |
| 1 | Hypnotic medication usage |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on ATC coded datasets. Refer to appendix/R code for more information.

**HYPNOTICS\_CORE3**

**Variable name:** hypnotics\_core3

**Description:** Interim history of hypnotic medication (sleeping pill) use in exam 3

|  |  |
| --- | --- |
| **Code or Value** | **Description** |
| 0 | No hypnotic medication usage |
| 1 | Hypnotic medication usage |
| . | Did not attend exam/Unknown |

**Note:** This variable is based on ATC coded datasets. Refer to appendix/R code for more information.

**Derived variable: Depression**

The condition of depression with a suffix to indicate the core exam number – depression\_core – is derived based on two variables:

Antidepressant (antidepressants\_core): Interim history of antidepressant medication use

* 0 – No antidepressant usage
* 1 – Antidepressant usage
* . – Did not attend exam/Unknown

CDI (cdi\_depression\_core): Clinical diagnostic impression

* 0 – No clinical diagnostic impression for depression
* 1 – Clinical diagnostic impression for depression
* . – Did not attend exam/Unknown

EXAMS 1-3

Logic programming:

|  |  |  |
| --- | --- | --- |
| Antidepressant | CDI | Depression |
| 1 | 1 | 1 |
| 1 | 0 | 1 |
| 0 | 1 | 0 |
| 0 | 0 | 0 |
| . | 1 | 1 |
| . | 0 | 0 |
| 1 | . | 1 |
| 0 | . | 0 |
| . | . | . |

**Derived variable: Anxiety**

The condition of depression with a suffix to indicate the core exam number – anxiety\_core – is derived based on two variables:

Anxiolytics (anxiolytics\_core): Interim history of antidepressant medication use

* 0 – No anxiolytic usage
* 1 – Anxiolytic usage
* . – Did not attend exam/Unknown

CDI (cdi\_anxiety\_core): Clinical diagnostic impression

* 0 – No clinical diagnostic impression for anxiety
* 1 – Clinical diagnostic impression for anxiety
* . – Did not attend exam/Unknown

EXAMS 1-3

Logic programming:

|  |  |  |
| --- | --- | --- |
| Anxiolytic | CDI | Anxiety |
| 1 | 1 | 1 |
| 1 | 0 | 1 |
| 0 | 1 | 0 |
| 0 | 0 | 0 |
| . | 1 | 1 |
| . | 0 | 0 |
| 1 | . | 1 |
| 0 | . | 0 |
| . | . | . |

**ATC codes for antidepressants**

|  |  |  |
| --- | --- | --- |
| ATC CODE FOR MEDICATION OR FIRST DRUG IN COMPOUND | MEDICATION | Notes |
| N06AA01 | Desipramine |  |
| N06AA02 | Imipramine |  |
| N06AA03 | Imipramine oxide |  |
| N06AA04 | Clomipramine |  |
| N06AA05 | Opipramol |  |
| N06AA06 | Trimipramine |  |
| N06AA07 | Lofepramine |  |
| N06AA08 | Dibenzepin |  |
| N06AA09 | Amitriptyline | \*tricyclics also used for pain/neuropathy |
| N06AA10 | Nortriptyline | \*tricyclics also used for pain/neuropathy |
| N06AA11 | Protriptyline |  |
| N06AA12 | Doxepin |  |
| N06AA13 | Iprindole |  |
| N06AA14 | Melitracen |  |
| N06AA15 | Butriptyline |  |
| N06AA16 | Dosulepin |  |
| N06AA17 | Amoxapine |  |
| N06AA18 | Dimetacrine |  |
| N06AA19 | Amineptine |  |
| N06AA21 | Maprotiline |  |
| N06AA23 | Quinupramine |  |
| N06AB02 | Zimeldine |  |
| N06AB03 | Fluoxetine |  |
| N06AB04 | Citalopram |  |
| N06AB05 | Paroxetine |  |
| N06AB06 | Sertraline |  |
| N06AB07 | Alaproclate |  |
| N06AB08 | Fluvoxamine |  |
| N06AB09 | Etoperidone |  |
| N06AB10 | Escitalopram |  |
| N06AF01 | Isocarboxazid |  |
| N06AF02 | Nialamide |  |
| N06AF03 | Phenelzine |  |
| N06AF04 | Tranylcypromine |  |
| N06AF05 | Iproniazide |  |
| N06AF06 | Iproclozide |  |
| N06AG02 | Moclobemide |  |
| N06AG03 | Toloxatone |  |
| N06AX01 | Oxitriptan |  |
| N06AX02 | Tryptophan |  |
| N06AX03 | Mianserin |  |
| N06AX04 | Nomifensine |  |
| N06AX05 | Trazodone |  |
| N06AX06 | Nefazodone |  |
| N06AX07 | Minaprine |  |
| N06AX08 | Bifemelane |  |
| N06AX09 | Viloxazine |  |
| N06AX10 | Oxaflozane |  |
| N06AX11 | Mirtazapine |  |
| N06AX13 | Medifoxamine |  |
| N06AX14 | Tianeptine |  |
| N06AX15 | Pivagabine |  |
| N06AX16 | Venlafaxine |  |
| N06AX17 | Milnacipran |  |
| N06AX18 | Reboxetine |  |
| N06AX19 | Gepirone |  |
| N06AX21 | Duloxetine |  |
| N06AX22 | Agomelatine |  |
| N06AX23 | Desvenlafaxine |  |
| N06AX24 | vilazodone |  |
| N06AX25 | Hyperici herba | \*St Johns Wort |
| N06AX26 | vortioxetine |  |
| N06AX27 | esketamine |  |
| N06AX28 | levomilnacipran |  |
| N06AX29 | brexanolone |  |

**ATC codes for anxiolytics**

|  |  |  |
| --- | --- | --- |
| ATC CODE FOR MEDICATION OR FIRST DRUG IN COMPOUND | MEDICATION | Notes |
| N05BA01 | Diazepam | \*=also used to treat seizures |
| N05BA02 | Chlordiazepoxide |  |
| N05BA03 | Medazepam |  |
| N05BA04 | Oxazepam |  |
| N05BA05 | Potassium clorazepate |  |
| N05BA06 | Lorazepam | \*=also used to treat seizures |
| N05BA07 | Adinazolam |  |
| N05BA08 | Bromazepam |  |
| N05BA09 | Clobazam | \*=also used to treat seizures |
| N05BA10 | Ketazolam |  |
| N05BA11 | Prazepam |  |
| N05BA12 | Alprazolam |  |
| N05BA13 | Halazepam |  |
| N05BA14 | Pinazepam |  |
| N05BA15 | Camazepam |  |
| N05BA16 | Nordazepam |  |
| N05BA17 | Fludiazepam |  |
| N05BA18 | Ethyl loflazepate |  |
| N05BA19 | Etizolam |  |
| N05BA21 | Clotiazepam |  |
| N05BA22 | Cloxazolam |  |
| N05BA23 | Tofisopam |  |
| N05BA56 | Lorazepam, combinations | |
| N05BB01 | Hydroxyzine | \*Also used as Antihistamine |
| N05BB02 | Captodiame |  |
| N05BB51 | Hydroxyzine, combinations | |
| N05BC01 | Meprobamate |  |
| N05BC03 | Emylcamate |  |
| N05BC04 | Mebutamate |  |
| N05BC51 | Meprobamate, combinations | |
| N05BD01 | Benzoctamine |  |
| N05BE01 | Buspirone |  |
| N05BX01 | Mephenoxalone |  |
| N05BX02 | Gedocarnil |  |
| N05BX03 | Etifoxine |  |
| N05BX04 | fabomotizole |  |
| N05BX05 | Lavandulae aetheroleum | \*Lavender |

**ATC codes for hypnotics**

|  |  |  |
| --- | --- | --- |
| ATC CODE FOR MEDICATION OR FIRST DRUG IN COMPOUND | MEDICATION | Notes |
| N05CA01 | Pentobarbital |  |
| N05CA02 | Amobarbital |  |
| N05CA03 | Butobarbital |  |
| N05CA04 | Barbital |  |
| N05CA05 | Aprobarbital |  |
| N05CA06 | Secobarbital |  |
| N05CA07 | Talbutal |  |
| N05CA08 | Vinylbital |  |
| N05CA09 | Vinbarbital |  |
| N05CA10 | Cyclobarbital |  |
| N05CA11 | Heptabarbital |  |
| N05CA12 | Reposal |  |
| N05CA15 | Methohexital |  |
| N05CA16 | Hexobarbital |  |
| N05CA19 | Thiopental |  |
| N05CA20 | Etallobarbital |  |
| N05CA21 | Allobarbital |  |
| N05CA22 | Proxibarbal |  |
| N05CB01 | Combinations of barbiturates | \*also used for migraine |
| N05CB02 | Barbiturates in combination with other drugs | \*also used for migraine |
| N05CC01 | Chloral hydrate |  |
| N05CC02 | Chloralodol |  |
| N05CC03 | Acetylglycinamide chloral hydrate |  |
| N05CC04 | Dichloralphenazone |  |
| N05CC05 | Paraldehyde |  |
| N05CD01 | Flurazepam |  |
| N05CD02 | Nitrazepam |  |
| N05CD03 | Flunitrazepam |  |
| N05CD04 | Estazolam |  |
| N05CD05 | Triazolam |  |
| N05CD06 | Lormetazepam |  |
| N05CD07 | Temazepam |  |
| N05CD08 | Midazolam | \*=also used to treat seizures |
| N05CD09 | Brotizolam |  |
| N05CD10 | Quazepam |  |
| N05CD11 | Loprazolam |  |
| N05CD12 | Doxefazepam |  |
| N05CD13 | Cinolazepam |  |
| N05CD14 | remimazolam |  |
| N05CD15 | nimetazepam |  |
| N05CE01 | Glutethimide |  |
| N05CE02 | Methyprylon |  |
| N05CE03 | Pyrithyldione |  |
| N05CF01 | Zopiclone |  |
| N05CF02 | Zolpidem |  |
| N05CF03 | Zaleplon |  |
| N05CF04 | eszopiclone |  |
| N05CH01 | Melatonin |  |
| N05CH02 | ramelteon |  |
| N05CH03 | tasimelteon |  |
| N05CM01 | Methaqualone |  |
| N05CM02 | Clomethiazole |  |
| N05CM03 | Bromisoval |  |
| N05CM04 | Carbromal |  |
| N05CM05 | Scopolamine | \*Also used for vertigo/Motion sickness |
| N05CM06 | Propiomazine |  |
| N05CM07 | Triclofos |  |
| N05CM08 | Ethchlorvynol |  |
| N05CM09 | Valerian |  |
| N05CM10 | Hexapropymate |  |
| N05CM11 | Bromides |  |
| N05CM12 | Apronal |  |
| N05CM13 | Valnoctamide |  |
| N05CM15 | Methylpentynol |  |
| N05CM16 | Niaprazine |  |
| N05CM17 | Melatonin |  |
| N05CM18 | Dexmedetomidine |  |
| N05CM19 | suvorexant |  |
| N05CM21 | lemborexant |  |
| N05CX01 | Meprobamate, combinations |  |
| N05CX02 | Methaqualone, combinations |  |
| N05CX03 | Methylpentynol, combinations |  |
| N05CX04 | Clomethiazole, combinations |  |
| N05CX05 | Emepronium, combinations |  |
| N05CX06 | Dipiperonylaminoethanol, combinations |  |