**MHQ2 Case/Control Criteria**

Index – [B] = repeat from baseline, [N] = new to this cohort, [R] = repeat from first MHQ, [R’] = repeat with issues:

**General:**

Any self-report (SR) diagnosis [R']

Any SR anxiety disorder [R']

Any SR eating disorder [R']

Any algorithm-based outcome (depression, hypomania/mania, panic dx, eating dx, alcohol harm)

[**Depression**](#_Depression_section_(D))**:**

A. Lifetime

Depression ever case [R]

Depression ever control [R]

Depression and subthreshold depressive symptoms ever (case variant) [R’]

Single episode unipolar depression (case variant) [R]

Recurrent unipolar depression (case variant) [R]

Single episode unipolar depression triggered by event (case variant) [R]

Post-natal depression (case variant) [R]

Worst episode melancholic features (case variant) [N]

Worst episode atypical features (case variant) [N]

B. Current

PHQ9 derived depression (symptoms) [R]

PHQ9 full score (score) [R]

Current depression case [R]

Current depression control [R]

Current depression or subthreshold depression (case variant) [R’]

Current more severe depression (case variant) [R]

C. Treatment

Medication helped [N]

Non-medication therapy helped [N]

[**Mania section**](#_Mania_section_(MC)):

Hypomania/Mania Ever (symptoms) [R’]

Mania Ever (symptoms) [R’]

Bipolar affective disorder type I Case [R]

Bipolar affective disorder Control [R]

Wider bipolar spectrum (case variant) [R’]

[**Anxiety disorders**](#_Anxiety_and_panic)**:**

GAD7 full score [R]

GAD7 derived anxiety disorder case [R’]

Panic attack ever (symptom) [N]

Panic disorder ever case [N]

**Version control**

[**Eating disorders**](#_Eating_Disorder_(EP))

Extended anorexia phenotype [N]

BMI at low weight (in subset) [N]

Anorexia nervosa [N]

Anorexia nervosa binge-eating / purging subtype [N]

Anorexia nervosa restricting subtype [N]

Extended binge-eating phenotype [N]

Bulimia nervosa [N]

Binge-eating disorder (ICD-11) [N]

Binge-eating disorder (DSM-5) [N]

Extended purging phenotype [N]

Purging disorder [N]

[**Alcohol**](#_Alcohol_section_(MD))

AUDIT full score [R]

Harmful drinking (12 month) case [R]

Hazardous / harmful alcohol use (12 month) case [R’]

[**Cannabis**](#_Cannabis_(CU))

Cannabis use ever [R]

Daily cannabis use ever [R]

[**Self-harm**](#_Harm_behaviours_(HB))

Life not worth living ever [R]

Harm to self ever case [R]

Harm to self (12 month) case [N]

Suicide attempt ever [R]

[**Trauma and other exposures**](#_Trauma_and_other)

Childhood adverse events [R]

Adult abuse events [N]

Adverse events 12 months [N]

[**Social situation and resilience**](#_Social_section_(SS))

Social isolation [B]

Virtually connected [N]

Short scale UCLA Loneliness Score [N]

Brief Resilience Score [N]

* 1. **Changed algorithm re eating disorders bulimia and binge eating. Both disorders exclude people who binge only in the context of anorexia. Coding changed to better express this exclusion.**
  2. **(a) Changed the wording of anorexia algorithm – question number and question text did not match. Changed behaviour of algorithm towards thinking AN behaviour had health consequences 🡪 meant to include people who did not agree it was unhealthy. (b) Trauma questions re childhood trauma, when the CTS is reverse scored, needs to include ‘never’. (c) changes to the ICD11/DSM5 definitions of binge-eating disorder to align with definitions**

Glossary:

AUDIT – Alcohol Use Disorders Identification Test (assesses alcohol behaviours in last 12 months)

BMI – Body Mass Index, used to assign 'underweight'

CIDI-SF(L) – Composite International Diagnostic Interview – Short Form Lifetime version (Kessler, adapted by Levinson)

CTS – Childhood Trauma Screener (tool for adults to self-report abuse received as children)

DSM / DSM5 – The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (*American Psychiatric Association. (2013). Diagnostic and Statistical Manual of Mental Disorders (5th ed.). Arlington, VA: Amer Psychiatric Pub)*

MHQ1 – The first mental health web-based questionnaire for UK Biobank participants (also called “Thoughts and Feelings”)

MHQ2 – The second mental health web-based questionnaire for UK Biobank participants (also called “Mental Wellbeing”)

PHQ9 – Patient Health Questionnaire (assesses current depressive symptoms)

GAD7 – Generalised Anxiety Disorder Questionnaire (assesses current anxiety symptoms)

GLAD – The genetic links to anxiety and depression cohort study

UKB – UK Biobank

| Type of rule | Phenotype | | Rule in English | Algorithm | Notes and references | |
| --- | --- | --- | --- | --- | --- | --- |
| Summary (compound) outcomes | | | | | | |
| Info | Changes in questions on self-reported diagnosis MHQ1 (2016/7) 🡪 MHQ2 (2022)   * Categories made more specific:   + MHQ1: Anxiety, nerves or generalised anxiety disorder (1 category), becomes     - MHQ2 (1) Anxiety or nerves and (2) Generalised anxiety disorder   + MHQ1: Panic attacks (1 category), becomes     - MHQ2 (1) Panic attacks and (2) Panic disorder   + MHQ1: Psychological over-eating or binge-eating (1 category), becomes     - MHQ2 Binge eating disorder * Disorders added:   + Any other eating disorder   + Post-traumatic stress disorder * Re-ordered | | | | | |
| Case  Altered from MHQ1 | Self-reported diagnosis | | Reported a diagnosis of anything listed (suggested scoring for maximal use of information) | Any of MHC1 (Depression, mania, schizophrenia, other psychosis, personality disorder, autism, ADHD or OCD)  OR  MHC2 (Anxiety, GAD, social anxiety, agoraphobia, other phobia, panic disorder, PTSD) EXCEPT panic attacks  OR  MHC3 (Anorexia nervosa, bulimia nervosa, binge-eating dx, other eating disorder) | Upper algorithm uses new categories, and only scores panic disorder (not panic attacks).  Lower algorithm omits new categories and includes panic attacks.  We would recommend the upper algorithm unless making comparison with MHQ1. | |
| Case  Altered from MHQ1 | Self-reported diagnosis (alternate definition) | | Suggested scoring for maximum compatibility with MHQ1 | Any of MHC1 (Depression, mania, schizophrenia, other psychosis, personality disorder, autism, ADHD or OCD)  OR  MHC2 (Anxiety, GAD, social anxiety, agoraphobia, other phobia, panic attacks, panic disorder) EXCEPT PTSD  OR  Or MHC3 (Anorexia nervosa, bulimia nervosa, binge-eating dx) EXCEPT Other eating disorder |
| Case  Altered from MHQ1 | Any anxiety diagnosis | | Reports any of the anxiety disorders (not merely anxiety or panic attacks) | MHC2 includes at least one of:  Generalized anxiety disorder (02), Social anxiety or social phobia (03), Agoraphobia (04) Any other phobia (05), Panic disorder (07) | Note exclusion of anxiety or nerves, panic attacks and PTSD. | |
| Case  Altered from MHQ1 | Any eating disorder diagnosis | | Reports any of the eating disorders | MHC3 includes at least one of:  Anorexia nervosa (01), Bulimia nervosa (02), Binge-eating disorder (03), Any other eating disorder (04) |  | |
| Case  Altered from MHQ1 | Any algorithm-based disorder met | | Meets case definition for lifetime depression (including wider bipolar spectrum), panic disorder or eating disorder. Meets case definition for 12-month hazardous/harmful drinking. | Case {depression ever}  OR  Case {panic disorder ever}  OR  Case {eating disorder (anorexia nervosa, bulimia nervosa, binge-eating disorder (DSM), or purging disorder)}  OR  Case {hazardous/harmful alcohol use (12 month)} | Cannot be made equivalent to MHQ1, as GAD, PTSD and psychotic phenomena are not asked | |
| Depression section (D) | | | | | | |
| Case  Repeat from MHQ1 | Depression ever | | At least one core symptom of depression, most or all of the day on most or all days for a two week period, with at least five depressive symptoms that represent a change from usual occurring over the same time-scale, with some or a lot of impairment. | Persistent sadness (D2) = Yes OR Loss of interest (D3) = Yes  AND  How much of day (D4) = Most of day (03) or All day long (04)  AND  Did you feel this way (D5) = Almost every day (02) or Every day (03)  AND  Impairment (D20) = Somewhat (02) or A lot (03)  AND  Total number of symptoms endorsed (core and others) >= 5  Persistent sadness (core) D2; Loss of interest (core) D3; Tired or low energy D8; Gain or loss of weight D11 (gained weight (01) or lost weight (02)) or gain and loss (03); Sleep change D12; Trouble concentrating D14; Feeling worthless D15; Thinking about death D17 | CIDI-SF(L) (Composite International Diagnostic Interview – Short Form) lifetime version, depression module. (Kessler, adapted by Levinson). Note, it uses an impact question (D20), which is omitted in some other CIDI-SF versions.  **This algorithm provides consistency with MHQ1**. Scoring is based on DSM definition of major depressive disorder and not necessarily agreeing with other available scoring for CIDI-SF. However researchers may wish to change this for consistency with other studies or to include new items, eg leaden paralysis (D9).  *Kessler RC, Andrews G, Mroczek D, Ustun B, Wittchen HU. The World Health Organization composite international diagnostic interview short‐form (CIDI‐SF). Int J Methods Psychiatr Res. 1998;7(4):171-85.*  *Levinson, Potash, Mostafavi, Battle, Zhu, Weissman. “Brief Assessment of Major Depression For Genetic Studies: Validation of CIDI-SF Screening with SCID Interviews” European Neurpsychopharmacology 2016 (poster)* | |
| **Control** | Depression ever | | Not endorsing depression diagnosis, not positive for core depressive symptoms on CIDI-SF or scoring above threshold on PHQ-9 full-score | NOT mental health diagnosis (MHC1) = Depression (01)  AND NOT Persistent Sadness (D2) = Yes  AND NOT Loss of interest (D3) = Yes  AND NOT PHQ full score >= 5 (see below) | {control depression ever} plus {depression and subthreshold depressive symptoms ever} should include all participants with valid responses  *PHQ9 full-score cutoffs used are:*  *< 5 No depression*  *5-15 Less severe depression*  *>15 More severe depression* | |
| *Case variant*  *Altered from MHQ1* | Depression and subthreshold depressive symptoms ever | | Includes case {depression ever} PLUS   * Those positive for core symptoms on CIDI-SF(L) (persistent sadness or loss of interest) * Those who report diagnosis of depression. * Those who score above threshold on full-score PHQ-9   Regardless of the outcome of CIDI-SF(L) | Persistent Sadness (D2) = Yes  OR  D3 Loss of interest (D3) = Yes  OR  mental health diagnosis (MHC1) = Depression (01)  OR  PHQ full score >= 5 (see below) | This is the inverse of the control category, **and includes {depression ever}.** Note that in algorithms for MHQ1, the ‘subthreshold’ category did not include those with depression ever.  *PHQ9 full-score cutoffs used are:*  *< 5 No depression*  *5-15 Less severe depression*  *>15 More severe depression* | |
| *Case variant*  *Repeat from MHQ1* | Single episode unipolar depression | | {Depression ever} where participant reports one episode, and does not meet criteria for {bipolar type I} by having an episode of mania. | Case {depression ever}  AND  Number of episodes (D22)= One (01)  AND  NOT case {bipolar type I}  Excluded if number of episodes missing or bipolar state missing | Single episode, recurrent depression and bipolar type I should include all depression cases with valid responses | |
| *Case variant*  *Repeat from MHQ1* | Recurrent unipolar depression | | {Depression ever} where participant reports more than one episode, and does not meet criteria for {bipolar type I}. | Case {depression ever}  AND  Number of episodes (D22) = Several (02)  AND  NOT case {bipolar type I}  Excluded if number of episodes missing or bipolar state missing | Single episode, recurrent depression and bipolar type I should include all depression cases with valid responses | |
| *Case variant*  *Repeat from MHQ1* | Single episode unipolar depression ***triggered by event*** | | Those with single episode depression who endorsed “did this worst period start within two months of the death of someone close to you or after a stressful or traumatic event in your life?” | Case {depression single episode}  AND  start within two months of event (D4) = Yes | In the MHQ1 algorithms, this was labelled “Depression single episode triggered by loss”. This is the same item, with title changed to better reflect the questions | |
| *Case variant*  *Repeat from MHQ1* | Post-natal depression | | Was the first episode within months of giving birth, or has postnatal depression been suggested. | Case {depression ever}  AND  Did this first episode occur within months of giving birth? Or has it been suggested that you had post-natal depression? (D24) = Yes | **May exclude women with prior history of depression** who have a depressive episode following giving birth.  Excludes males (through self-selection on the post-natal question) | |
| *Case variant*  *MHQ2 only* | Worst depressive episode likely melancholic features (melancholic-like depression) | | All criteria met for depressive episode and the following:  A. One of   * anhedonia * lack of reactivity to positive events   B. And three of   * mood worse in the morning * loss of appetite or weight * early morning wakening * feelings of guilt   Can be as part of single or recurrent unipolar or bipolar episode. | Case {depression ever}  AND  (Loss of interest (D3) = Yes  OR  Did your mood brighten in response to positive events (D7) = No)  AND  >2 of:   * Was your mood worse (D8) = “in the morning” (01) * Appetite (D11) = “decreased appetite” (03) OR Weight change (D12) = “lost weight” (02)   (counts as 1 item)   * Sleep change (D13) = Yes AND Waking too early (D14b) = Yes * Guilt (D7) = Yes | Derived following DSM5 “with melancholic features” specifier. With two differences: (1) DSM requires the quality of mood to be different from normal sadness, which was not assessed (2) Two of six ‘B criteria’ in DSM are not asked (quality of sadness and psychomotor retardation/agitation). Requiring three B criteria is harder in this algorithm (of four) than in DSM (of six), and relies more on somatic symptoms.  Researchers could consider different thresholds if greater sensitivity desired. | |
| *Case variant*  *MHQ2 only* | Worst depressive episode likely atypical features (atypical depression) | | During worst episode, did not meet the criteria for melancholic depression, and had mood reactivity with two of the following:   * significant appetite or weight gain * hypersomnia * heavy leaden feelings in arms and legs * long-standing interpersonal rejection sensitivity that results in impairment   While not meeting criteria for melancholic depression  Can be as part of single or recurrent unipolar or bipolar episode. | Case {depression ever}  AND NOT Case {worst depressive episode melancholic}  AND  Did your mood brighten in response to positive events (D7) = Yes  AND  >1 of:   * Appetite (D11) = “increased appetite” (01) OR Weight (D12) = “gained weight” (01)   (counts as 1 item)   * Sleep change (D13) = Yes AND Sleeping too much (D14c) = Yes * Heavy feelings (D10) = Yes * Coping with rejection, even when not depressed (D21) = “Yes, and this has caused problems in work or social relationships” (03) | DSM criteria also ask that criteria for catatonic depression is also not met.  Note phrasing of question concerning sensitivity to rejection is different to GLAD | |
| Symptoms  Repeat from MHQ1 | PHQ9 derived depression | | Endorses the core items of little interest or pleasure OR feeling down positive (occurring at least half days or more), and has at least five items or more (including core) items scoring positive (that is occurring at least half the day for the first eight items, or at least some days for last item). | Positive if  A (core).  Little interest or pleasure (D1a) = More than half of the days (02) or Nearly every day (03)  OR  Feeling down (D1b) = More than half of the days (02) or Nearly every day (03)  AND  B (number of symptoms) –  Sum positive items >= 5   * Little interest or pleasure (D1a) = More than half of the days (02) or Nearly every day (03) * Feeling down (D1b) = More than half of the days (02) or Nearly every day (03) * Trouble sleeping (D1c) = More than half of the days (02) or Nearly every day (03) * Feeling tired (D1d) = More than half of the days (02) or Nearly every day (03) * Poor appetite(D1e) = More than half of the days (02) or Nearly every day (03) * Feeling guilt (D1f) = More than half of the days (02) or Nearly every day (03) * Trouble concentrating (D1g) = More than half of the days (02) or Nearly every day (03) * Moving slowly (D1h) = More than half of the days (02) or Nearly every day (03) * Thoughts death (D1i) = Several days (01) More than half of the days (02) or Nearly every day (03) | Criteria that approximates the **DSM criteria** for depression in the last two weeks (five or more items positive).  **Not to be confused with the fully scored PHQ9 score below, which is used as a severity marker**  *Manea L, Gilbody S, McMillan D. Optimal cut-off score for diagnosing depression with the Patient Health Questionnaire (PHQ-9): a meta-analysis. CMAJ. 2012;184(3):E191-E6* | |
| Score  Repeat from MHQ1 | PHQ9 full score | | Score items from “not at all” 0 to “nearly every day” 3 and sum. | Sum scores on individual items. No adjustment needed if score 0 to 3.  D1a Little interest or pleasure  D1b Feeling down  D1c Trouble sleeping  D1d Feeling tired  D1e Poor appetite  D1f Feeling guilt  D1g Trouble concentrating  D1h Moving slowly  D1i Thoughts death | This fully scored PHQ9 score is used as a **severity marker.**  Not to be confused with {PHQ9 derived depression} used to approximates the DSM criteria for depression.  Cut-offs used are:  < 5 No depression  5-15 Less severe depression  >15 More severe depression  *Kroenke K, Spitzer RL, Williams JB, Löwe B. The patient health questionnaire somatic, anxiety, and depressive symptom scales: a systematic review. Gen Hosp Psychiatry. 2010;32(4):345-59.* | |
| Case  Repeat from MHQ1 | Current Depression | | PHQ9 derived depression +ve and CIDI-SF(L) +ve | {depression ever}  AND  {PHQ9 derived depression} | Note that this is using the **PHQ9 derived depression**, and not the PHQ9 full score.  *Manea L, Gilbody S, McMillan D. Optimal cut-off score for diagnosing depression with the Patient Health Questionnaire (PHQ-9): a meta-analysis. CMAJ. 2012;184(3):E191-E6* | |
| Control  Repeat from MHQ1 | Current Depression | | Scores negative on PHQ9 algorithm and below cut-off on PHQ9 full score | NOT {PHQ9 derived depression}  AND  PHQ9 full score <5 | Note that this includes people who are {depression ever} who are not currently depressed  Cut-offs used for full score are:  < 5 No depression  5-15 Less severe depression  >15 More severe depression | |
| Case variant  Altered from MHQ1 | Current depression or subthreshold depression | | Includes those who fall between the case (PHQ9 derived depression + CIDI positive) and controls (PHQ9 full score <5) | {PHQ9 derived depression}  OR  PHQ9 full score >= 5 | This will include all of those who are cases for current depression.  Note that this **does not include** people who were positive for lifetime depression {depression ever} but who are **not** **currently depression** {PHQ9 derived depression}  This category plus controls for current depression will contain all of those who answered validly | |
| Case variant  Repeat from MHQ1 | Current more severe depression | | As current depression (above) with PHQ9 full score > 15 | {depression current}  AND  PHQ9 full score >15 | Note previously called “current severe depression”  Cut-offs used for PHQ9 full score are:  < 5 No depression  5-15 Less severe depression  >15 More severe depression  *Kroenke K, Spitzer RL, Williams JB, Löwe B. The patient health questionnaire somatic, anxiety, and depressive symptom scales: a systematic review. Gen Hosp Psychiatry. 2010;32(4):345-59* | |
| Case variant | Medication helped | | Any of the drugs the participant reported taking helped symptoms of depression (at least a little). | Case {depression ever}  AND  Have you ever tried (D27) = Medication prescribed to you (01)  AND  Have you ever tried these (D28) = at least one of:  • Citalopram (01)  • Fluoxetine (02)  • Sertraline (03)  • Paroxetine (04)  • Amitriptyline (05)  • Dosulepin (06)  • Other antidepressant (07)  AND  For any of D28a to D28g  Has (selected medication) helped you to feel better (D28a-g) = “Yes, at least a little” | The inverse (medication not being helpful) would require at least one of D28 medications endorsed, and all of D28a-g that are answered to be No or Don’t know.  Antidepressants were prioritised as either recommended first-line agents for depression in the UK or the most common prescribed (for anything) in the UK Biobank | |
| Case variant | Non-medication therapy helped | | Any of the talking therapies or other therapeutic activities that participant reported participating in helped symptoms of depression (at least a little). | Case {depression ever}  AND  Which therapies or therapeutic activities have you tried (D29) = “Talking therapies, such as psychotherapy, counselling, group therapy or CBT” (01) OR “Other therapeutic activities such as mindfulness, yoga or art classes” (02)  AND  Have these talking therapies or therapeutic activities helped (D29a) = “Yes, at least a little” (01) | Due to D29a being asked if talking therapy endorsed or other activity endorsed, or both, it may not be possible to disentangle which had an effect. | |
| Mania section (MC) | | | | | | |
| Symptoms  Repeat from MHQ1\* | Hypomania / Mania ever | | Endorses features of hypomania / mania lasting for at least four consecutive days, whether or not they were disruptive, and whether or not a depression ever case. Requires “High-hyper” plus three other symptoms or “Irritable” plus four other symptoms | High/Hyper (MC1) = Yes OR Irritable (MC2) = Yes  AND  Four features from:  -High/Hyper (MC1) = Yes  -Active (MC3) = (01)  -Talkative (MC3) = (02)  -Less sleep (MC3) = (03)  -Creative/ideas (MC3) = (04)  -Restless (MC3) = (05)  -Confident (MC3) = (06)  -Thoughts racing (MC3) = (07)  -Easily distracted (MC3) = (08)  AND  Duration MC4 = (04) A week or more\* | Based on DSM5 definition of hypo/mania. This includes likely cases of bipolar affective disorder type I, possible bipolar type II, recurrent mania without clear depression, and antidepressant-induced symptoms of hypomania / mania. Due to the low specificity of symptoms may also include normal variation.  \***Week duration kept for compatibility with MHQ1** / baseline. For DSM diagnosis, only need 4 days duration, so for better fit with DSM criteria, replace with:  Duration MC4 = (03) At least four days / (04) A week or more  *Smith DJ, Nicholl BI, Cullen B, Martin D, Ul-Haq Z, Evans J, et al. Prevalence and characteristics of probable major depression and bipolar disorder within UK biobank: cross-sectional study of 172,751 participants. PLoS One. 2013;8(11):e75362* | |
| Symptoms  Fields available in MHQ1 | Mania ever | | Endorses features of mania lasting at least 1 week. Requires “High-hyper” plus three other symptoms or “Irritable” plus four other symptoms and disruption to life | High/Hyper (MC1) = Yes OR Irritable (MC2) = Yes  AND  Four features from:  -High/Hyper (MC1) = Yes  -Active (MC3) = (01)  -Talkative (MC3) = (02)  -Less sleep (MC3) = (03)  -Creative/ideas (MC3) = (04)  -Restless (MC3) = (05)  -Confident (MC3) = (06)  -Thoughts racing (MC3) = (07)  -Easily distracted (MC3) = (08)  AND  Duration (MC4) = (04) A week or more  AND  Needed treatment (MC5a) = Yes OR Caused problems (MC5b) = Yes | Based on DSM4 definition of mania. This includes likely cases of bipolar affective disorder type I, recurrent mania without clear depression, and antidepressant-induced symptoms of mania.  *Smith DJ, Nicholl BI, Cullen B, Martin D, Ul-Haq Z, Evans J, et al. Prevalence and characteristics of probable major depression and bipolar disorder within UK biobank: cross-sectional study of 172,751 participants. PLoS One. 2013;8(11):e75362* | |
| Case  Repeat of MHQ1 | Bipolar affective disorder type I | | Ever manic/hyper or irritable, plus at least three other features (four if never manic/hyper), plus duration a week or more, plus symptoms caused significant problems. Requires also to be case for depression ever. | Case {depression ever}  AND  Symptoms {mania ever} | Lifetime depression is not required in DSM4 diagnostic criteria, but is added here to improve the positive predictive value of the test, which is otherwise low due to the normal variation of mania-like symptoms (see references). This means that recurrent mania subtype of bipolar disorder will be missed in this algorithm.  This definition also does not exclude individuals with antidepressant-induced mania, which may be excluded from the definition of bipolar disorder elsewhere.  *Cerimele et al. The prevalence of bipolar disorder in primary care samples: a systematic review, General Hospital Psychiatry 36 (2014) 19-25*  *Carvalho, A. F., Y. Takwoingi, et al. (2015). "Screening for bipolar spectrum disorders: a comprehensive meta-analysis of accuracy studies." Journal of affective disorders* ***172****: 337-346* | |
| Control  Repeated from MHQ1 | Bipolar affective disorder | | No hypomania / mania symptoms, nor categorised as bipolar at baseline, nor self-reported bipolar | NOT {hypomania/mania}  AND  NOT {categorised bipolar @ baseline 20126 = 1 or 2}  AND  NOT {self-reported bipolar 20544=10} | A more stringent definition of control than non-caseness by eliminating contradictory cases | |
| Case variant  Adapted from MHQ1 | Wider Bipolar Spectrum | | *As above, with potential for including participants with hypomania as well as mania* | Case {depression ever}  AND  Symptoms {hypomania/mania ever}\* | MHQ1 definition was for bipolar disorder type II only. This definition includes bipolar I and bipolar II disorder. There is some uncertainty as the definition of a wider bipolar spectrum, compared to bipolar type I alone.  \* note two definitions of hypomania (lasting 4 days or lasting a week) could give two different cohorts.  *Cerimele et al. The prevalence of bipolar disorder in primary care samples: a systematic review, General Hospital Psychiatry 36 (2014) 19-25*  *Carvalho, A. F., Y. Takwoingi, et al. (2015). "Screening for bipolar spectrum disorders: a comprehensive meta-analysis of accuracy studies." Journal of affective disorders* ***172****: 337-346* | |
| Anxiety and panic section (GAD) | | | | | | |
| Score  Repeat from MHQ1 | GAD7 full score | | Score items from “not at all” 0 to “nearly every day” 3 and sum. | Sum scores on individual items. No adjustment needed if score 0 to 3  GAD7\_1a Feeling nervous, anxious or on edge  GAD7\_1b Not being able to stop or control worrying  GAD7\_1c Worrying too much about different things  GAD7\_1d Trouble relaxing  GAD7\_1e Being so restless that it is hard to sit still  GAD7\_1f Becoming easily annoyed or irritable  GAD7\_1g Feeling afraid as if something awful might happen | *Kroenke K, Spitzer RL, Williams JB, Löwe B. The patient health questionnaire somatic, anxiety, and depressive symptom scales: a systematic review. Gen Hosp Psychiatry. 2010;32(4):345-59* | |
| Case  Changed from equivalent in MHQ1 | GAD7 derived anxiety disorder | | GAD7 full-score >=10 (where each item score 0-3) | {GAD7 full score} >= 10 | This is **not consistent with MHQ1** {current anxiety}, where CIDI-SF(L) GAD module was used, and participants were only categorised as current anxiety if positive on the CIDI GAD ever. MHQ1 could however be scored in this way.  *Kroenke K, Spitzer RL, Williams JB, Löwe B. The patient health questionnaire somatic, anxiety, and depressive symptom scales: a systematic review. Gen Hosp Psychiatry. 2010;32(4):345-59* | |
| Symptom  New | Panic attack ever | | An abrupt surge of intense fear or intense discomfort that reaches a peak within minutes, and during which time four or more of a list of 13 physical and cognitive symptoms occur. | 4 or more symptoms out of:  Experienced the following symptom (SFP1):   * Heart pounding or racing (01) * Sweating (02) * Trembling or shaking (02) * Short of breath or being smothered (04) * Choking (05) * Pain or discomfort in chest (06) * Nauseous or felt sick in the stomach (07) * Dizzy, unsteady, light-headed or faint (08) * Hot or cold (09) * Numbness or tingling sensations (10) * Felt like things weren't real, or felt detached (11) * Afraid going to lose control or ‘go crazy’ (12) * Afraid going to die (13) | Based on DSM5 criteria for panic attacks.  Note that CIDI-SF(L) questions are about “a sudden, ***unexpected*** surge of intense fear”. This is consistent with DSM5 panic **disorder.** However panic **attacks** in DSM5 do not need to be unexpected, therefore if there are any participants with only expected / predictable panic attacks, they may not be included. | |
| Case  New | Panic disorder ever | | Recurrent unexpected panic attacks, with four (or more) physical and cognitive symptoms. At least one of the attacks has been follows by 1 month (or more) with persistent concern or worry about panic attacks, or maladaptive changes in behaviour related to the attacks. The disturbance is not attributable to the physiological effects of a substance or another medical condition, and is not better explained by social anxiety disorder or specific phobia. | Symptoms {panic attack ever}  AND  Feel anxious more panic attacks (SFP3a) = Yes  OR  Feel worried bad things  happening because of panic attacks (SFP3b) = Yes  OR  Avoid situations in which panic attacks might occur (SFP3c) = Yes  AND  Continue to worry about panic attacks or their consequences (SFP4) = Between 1 and 6 months (01) OR Between 6 and 12 months (02) OR Between 1 and 5 years (03) OR More than 5 years (04) OR All of my life / as long as I can remember (05)  AND  Ever the result of a medical condition, medication, drugs or alcohol (SFP7) = “No, never” (00) OR “Yes, some of them” (01)  AND  Do they occur in specific situations that cause you strong fear (SFP8) = No (00) OR “Yes, some of them” (01) | CIDI-SF (Composite International Diagnostic Interview – Short Form), panic module adapted for lifetime panic disorder (Byrne et al., 2020) and is scored based on the DSM5 definition of panic disorder. The scoring algorithm was adapted from Davies et al., 2022.  *Kessler RC, Andrews G, Mroczek D, Ustun B, Wittchen HU. The World Health Organization composite international diagnostic interview short‐form (CIDI‐SF). Int J Methods Psychiatr Res. 1998;7(4):171-85.*  *Byrne, E.M., et al. (2020). Cohort profile: the Australian genetics of depression study. BMJ Open 2020;10:e032580.*  *Davies, M.R., et al. (2022). Comparison of symptom-based versus self-reported diagnostic measures of anxiety and depression disorders in the GLAD and COPING cohorts. J. Anxiety Disord. 85, 102491..* | |
| Eating Disorder (EP) section | | | | | |
| Note | Questions are repeated in the eating disorders section in order to capture which activities occurred together and which were at different points in time. Use extreme caution when selecting which fields to use for which case definition. We suggest having a copy of the questionnaire as well as this document when planning use of these categories. | | | | | |
| Finding  New | Extended anorexia phenotype | Ever weighed much less than other people thought you ought to weigh | | Have you had a period in your life when you weighed much less than other people thought you ought to weigh? (EP1a) = 01 Yes | Extended eating disorder phenotypes include participants that may not meet the exact diagnostic criteria used for disorder algorithms, and do not represent any clinical entity | |
| Measure  New | BMI at low weight | Weight when “you weighed much less than other people thought you ought to weigh” in kg divided by Height in metres squared (as measured at baseline assessment centre | | EP3 Roughly how low did your weight get during this time? [metric] /  (*f.12144.1 Physical measures Height* [cm]/100)^2 | As we do not have height at time of low weight, this will be approximate  Note this is only asked of people who report low weight | |
| Case  New | Anorexia nervosa | Qualified for a lifetime diagnosis of anorexia nervosa without specifying the subtype: -  1) Significantly low bodyweight: BMI <= threshold for underweight  PLUS  2) Disturbance in the way in which one’s body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight: Feel fat OR body parts felt larger OR did NOT think low weight was bad for health OR self-esteem was dependent on weight or body shape a moderate or great amount  PLUS  3) Intense fear of gaining weight or of becoming fat, or persistent behaviour that interferes with weight gain, even though at a significantly low weight: Afraid might gain weight OR used fasting to control weight/shape OR used vomiting, laxatives, diuretics, diet pills to control weight / shape OR exercised excessively or compulsively to control weight / shape OR used any other method to control weight / shape | | 1) (Case {Extended anorexia phenotype}  AND  {BMI at low weight} <= 18.55 kg/m2)  AND  2) (Did you feel fat (EP2a/29122) = 01 Yes  OR  Did you think or feel that your body or parts of your body were larger than they really were? (EP2c/29125)= 01 Yes  OR  Did/do you ever think your low weight had/has negative consequences for your health? (EP4c/29128) = 00 No  OR  Was your self-esteem dependent on your body shape or weight (EP4d/29129) = 02 A great deal OR 01 A moderate amount)  AND  3) (afraid that you might gain weight or become fat (EP2b/29124) = 01 Yes  OR  Have you done any of the following as a way to control your body shape or weight? (EP5/29130) = any of 01 to 07)) | BMI is approximate  DSM5 criteria for anorexia nervosa specifies "significantly low body weight in the context of age, sex, developmental trajectory, and physical health". Our definition does not account for context, and so may miss some people eligible, such as children who deviated from their trajectory.  The question " When you have weighed much less than other people thought you ought to weigh or were at this low weight, was this due to a medical illness other than an eating disorder?" was included in this section, but has not been included in this core algorithm, as it may not be easy for participants to distinguish the origin of their weight/behaviour. However, other researchers could choose to include. | |
| Case  New | Anorexia nervosa binge-eating/purging subtype | Qualified for a lifetime diagnosis of anorexia nervosa binge-eating/purging type:-  1) Criteria for anorexia nervosa met  PLUS  2) Afraid might gain weight  PLUS  3) Has engaged in recurrent episodes of binge eating or purging behaviour (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas) | | case {Anorexia nervosa}  AND  (afraid that you might gain weight or become fat (EP2b)= 01 Yes  AND  (Have you had recurrent episodes of excessive overeating or binge eating (EP6c) = 02 Yes, ONLY at time(s) of low weight OR 01 Yes, BOTH at time(s) of low weight AND at time(s) when I was not at low weight)  OR  (Have you done any of the following as a way to control your body shape or weight (EP5) = 01 Made yourself vomit OR 02 Used laxatives (pills or liquids meant to stimulate bowel movement) OR 03 Used diuretics (water pills) OR 07 Used other methods to lose weight/stay at low weight) | Based on DSM definition: During the last 3 months, the individual has engaged in recurrent episodes of binge eating or purging behaviour (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas)  Most participants eligible for anorexia nervosa classification will fall into either the binge eating purging type or restrictive type, there will be some who do not meet either criteria. | |
| Case  New | Anorexia nervosa restricting subtype | Qualified for a lifetime diagnosis of anorexia nervosa restricting subtype:-  1) Criteria for anorexia nervosa met  PLUS  2) Afraid might gain weight  PLUS  3) Has **not** engaged in recurrent episodes of binge eating or purging behaviour (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas).  4) Weight loss is accomplished primarily through dieting, fasting, and/or excessive exercise. | | Case {anorexia nervosa}  AND  EP2b= 01 Yes  AND  Have you done any of the following as a way to control your body shape or weight (EP5) **did not include**!= 01 Made yourself vomit OR 02 Used laxatives OR 03 Used diuretics (water pills) OR 07 other methods  AND  (Have you had recurrent episodes of excessive overeating or binge eating (EP6a) = 00 No  OR  Do/did you experience episodes of excessive overeating/binge eating during your time(s) of low weight (EP6c) = 00 No, only at time(s) when I was NOT at low weight)  AND  Have you done any of the following as a way to control your body shape or weight (EP5) = 04 Used weight loss pills (over the counter or prescription) OR 05 Exercised excessively, felt compelled to exercise, felt uneasy or distressed if unable to exercise or prioritised exercise over your health or important activities OR 06 Fasted or not eaten for eight waking hours or more | Based on DSM Definition: During the last 3 months, the individual has **not** engaged in recurrent episodes of binge eating or purging behaviour (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas). This subtype describes presentations in which weight loss is accomplished primarily through dieting, fasting, and/or excessive exercise.  Most participants eligible for anorexia nervosa classification will fall into either the binge eating purging type or restrictive type, there will be some who do not meet either criteria. | |
| Finding  New | Extended overeating phenotype | Recurrent episodes of excessive overeating, regardless of length and context | | Have you had recurrent episodes of excessive overeating or binge eating (EP6a) = 02 Yes, at least once a week | Extended eating disorder phenotypes include participants that may not meet the exact diagnostic criteria used for disorder algorithms, and do not represent any clinical entity. Termed ‘overeating’ rather than binge eating, as does not require loss of control. | |
| Case  New | Bulimia nervosa | 1) Recurrent episodes of overeating or binge eating at least once a week for at least three months  PLUS  2) Reports binging took place outside any episodes of low weight  OR  Reports binging took place only during episodes of low weight, but those episodes never met criteria for anorexianervosaPLUS  3) Had loss of control of eating at least once a week for at least three months  PLUS  4) Recurrent inappropriate compensatory behaviours in order to prevent weight gain: At time when they had regular episodes of overeating they also used at least one method to control body shape or weight at least once a week for at least three months  PLUS  5) At time when regular episodes of overeating, self-worth was dependent on body shape / weight to moderate or great deal | | Have you had recurrent episodes of excessive overeating or binge eating (EP6a) = 02 Yes, at least once a week  AND  What was the longest amount of time where you were overeating/binge eating at least once a week? (EP6b) = 03 At least three months  AND  (Excessive overeating/binge eating during your time(s) of low weight? (EP6c) = 01 Both, 00 No or NA not underweight  OR  (Excessive overeating/binge eating during your time(s) of low weight? (EP6c) = 02 Yes AND not {case anorexia nervosa}))  AND  During your episodes of excessive overeating/binge eating, how often have you felt like you did not have control over your eating (EP7) = 03 At least once a week for at least three months  AND  Do/did you feel distressed about your episodes of excessive overeating/binge eating? (EP9) =01 Yes  AND  During the time(s) when you were regularly overeating/binge eating, have you done any of the following as a way to control your body shape or weight? (EP10) = 01 Made yourself vomit OR 02 Used laxatives (pills or liquids meant to stimulate bowel movements) OR 03 Used diuretics (water pills) 04 Used weight loss pills (over the counter or prescription) OR 05 Exercised excessively, felt compelled to exercise, felt uneasy or distressed if unable to exercise or prioritised exercise over your health or important activities OR 06 Fasted or not eaten for eight waking hours or more OR 07 Used other methods to lose weight/stay at low weight)  AND  During the time when you were regularly overeating/binge eating, did you ever use any of these behaviours (made yourself vomit, used pills, exercised excessively or fasted), on their own or in combination, at least once a week? (EP10a) = 01 Yes, at least once a week  AND  What was the longest amount of time when you were overeating/binge eatingand you engaged in any of these behaviours (EP10b) = 03 At least three months  AND  During the time when you were overeating/binge eating, how dependent was your self-worth on your body shape or weight? (EP10c) = 02 A great deal OR 01 A moderate amount | Based on DSM5 criteria for Bulimia Nervosa | |
| Case  New | Binge-eating disorder (ICD-11) | 1) Binge eating at least once a week over a period of at least three months.  PLUS  2) Reports binging took place outside any episodes of low weight  OR  Reports binging took place only during episodes of low weight, but those episodes never met criteria for anorexiaPLUS  3a) At time when regular episodes of overeating, reported a loss of control at least once a week for at least six months  PLUS  3b) Felt distress about excessive overeating/ binge eating  PLUS  4) At time when regular episodes of overeating, none of the listed ways of controlling weight / shape were used | | Have you had recurrent episodes of excessive overeating or binge eating (EP6a) = 02 Yes, at least once a week  AND  What was the longest amount of time where you were overeating/binge eating at least once a week? (EP6b) = 03 At least three months  AND  (Excessive overeating/binge eating during your time(s) of low weight? (EP6c) = 01 Both, 00 No or NA not underweight  OR  (Excessive overeating/binge eating during your time(s) of low weight? (EP6c) = 02 Yes AND not {case anorexia nervosa}))  AND  During your episodes of excessive overeating/binge eating, how often have you felt like you did not have control over your eating (e.g. not being able to stop eating or feeling compelled to eat)? (EP7) = 03 At least once a week for at least three months  AND  Do/did you feel distressed about your episodes of excessive overeating/binge eating? (EP9) =01 Yes  AND  During the time(s) when you were regularly overeating/binge eating**,** have you done any of the following as a way to control your body shape or weight? EP10= None of the above | Note there are two versions of algorithms for binge-eating disorder due to lack on consensus to criteria (see DSM version below) | |
| Case  New | Binge-eating disorder (DSM-5) | 1) Binge eating episodes at least once a week for three months.  PLUS  2) Reports binging took place outside any episodes of low weight  OR  Reports binging took place only during episodes of low weight, but those episodes never met criteria for anorexiaPLUS  3) Episodes feature loss of control at least once a week for at least three months  PLUS  4) Three or more of:   * Eat quickly * Eat till uncomfortable * Eat lots when not hungry * Alone due to embarrassment * Disgust after eating   PLUS  5) Not associated with the recurrent use of inappropriate compensatory behaviour | | Have you had recurrent episodes of excessive overeating or binge eating (EP6a) = 02 Yes, at least once a week  AND  What was the longest amount of time where you were overeating/binge eating at least once a week? (EP6b) = 03 At least three months  AND  (Excessive overeating/binge eating during your time(s) of low weight? (EP6c) = 01 Both, 00 No or NA not underweight  OR  (excessive overeating/binge eating during your time(s) of low weight? (EP6c) = 02 Yes AND not {case anorexia nervosa}))  AND  During your episodes of excessive overeating/binge eating, how often have you felt like you did not have control over your eating (e.g. not being able to stop eating or feeling compelled to eat)? (EP7) = 03 At least once a week for at least three months  AND  During these episodes of excessive overeating/binge eating, have you:  (EP8) = At least 3 of:  01 rapidly  02 uncomfortably  03 hungry  04 embarassed  05 disgusted  AND  During the time(s) when you were regularly overeating/binge eating, have you done any of the following as a way to control your body shape or weight? (EP10) = 00 None of the above | Note there are two versions of algorithms for binge-eating disorder due to lack on consensus to criteria (see ICD version above) | |
| Finding  New | Extended purging phenotype | Reports using vomiting, laxatives, diuretics or diet pills to control body shape or weight outside periods of low weight or binge-eating | | Was there a time in your life when you made yourself vomit, used laxatives, diuretics or pills, on their own or in combination, at least once a week as a way to control your body shape or weight? (EP11a) = 01 Yes, at least once a week | Extended eating disorder phenotypes include participants that may not meet the exact diagnostic criteria used for disorder algorithms, and do not represent any clinical entity | |
| Case  New | Purging disorder | 1) Outside of any periods of low weight or regular over-eating, used at least one of the following: vomit, laxatives, diuretics or diet pills  PLUS  2) Used at least once a week for at least three months  PLUS  3) At time when regular episodes of purging, self-worth was dependent on body shape / weight to moderate or great deal | | Was there a time in your life when you made yourself vomit, used laxatives, diuretics or pills, on their own or in combination, at least once a week as a way to control your body shape or weight? (EP11a) = 01 Yes, at least once a week  AND  Outside any periods of low weight or regular overeating/binge eating that you may have told us about, what was the longest amount of time where you engaged in any of the behaviours (made yourself vomit, used laxatives, diuretics or pills), on their own or in combination, at least once a week? (EP11b) = 03 At least three months  AND  During the time when you were engaging in these behaviours, how dependent was your self-worth on your body shape or weight? (EP11c) = 02 A great deal OR 01 A moderate amount |  | |
| Alcohol section (MD) | | | | | | |
| Score  Repeat from MHQ1 | AUDIT full score | | Sum individual scores (0-4)  (Coding on UKB is variable, so requires careful adjustment) | Sum the following, adjusting item scores to 0-4 as indicated:   * Frequency (AUDIT1)   scored 0-4, no adjustment needed   * Typical drinks (AUDIT 1a)   scored 1-5, needs adjusting   * Six or more drinks (AUDIT 1b)   scored 1-5, needs adjusting   * Unable to stop (AUDIT 2)   scored 1-5, needs adjusting   * Failed to do what expected due to drinking (AUDIT 3)   scored 1-5, needs adjusting   * Needed to drink first thing (AUDIT 4)   scored 1-5, needs adjusting   * Guilt due to drinking (AUDIT 5)   scored 1-5, needs adjusting   * Unable to remember due to drink (AUDIT 6)   scored 1-5, needs adjusting   * Injury due to drinking ever (AUDIT 7)   scored 0,1,2, needs adjusting to 0,2,4   * Advice to cut down ever (AUDIT 8)   scored 0,1,2, needs adjusting to 0,2,4 | Can be scored using algorithm, or scores in each section added together and cut-off used (full score). The full score approach seems to be more used in the literature.  Notes:  1.Skipping rule from 1 or 1b to 7 means some items may be incomplete-  2. Numbers (AUDIT1, 1a, 1b, etc) are different than in the AUDIT manual cited below.  *Babor, T. F., J. C. Higgins-Biddle, et al. (2001). "AUDIT: The alcohol use disorders identification test: Guidelines for use in primary health care."* | |
| Case  Repeat from MHQ1 | Hazardous / harmful alcohol use (12 month) | | Score 8-15 predicts “hazardous drinking” while scores of 16 and over predict “harmful drinking” | Score {AUDIT full scale} >= 8 (when items scored 0-4) | AUDIT score 8 cannot be reached by historical items alone, therefore drinking behaviour was in the last year.  Scores of 8 or more are also likely to meet criteria for Alcohol Use Disorder according to DSM5, which requires more than one symptom, where symptoms are similar to AUDIT questions 2-8. However it is also possible to use an algorithm in publication to more closely approximate DSM5 criteria  *Babor, T. F., J. C. Higgins-Biddle, et al. (2001). "AUDIT: The alcohol use disorders identification test: Guidelines for use in primary health care."*  *Drummond, C., O. McBride, N. Fear and E. Fuller (2016). Alcohol dependence. Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey. S. McManus, P. Bebbington, R. Jenkins and T. Brugha. Leeds, NHS Digital.* | |
| Case  Repeat from MHQ1 | Harmful drinking (12 months) | | An AUDIT full scale score of 16 or more predicts harmful drinking. | Score {AUDIT full-scale} >= 16 (when items scored 0-4) | Scores of 16 or more are also likely to meet criteria for Severe Alcohol Use Disorder according to DSM5, which requires more than six symptoms, where symptoms are similar to AUDIT questions 2-8.  *Babor, T. F., J. C. Higgins-Biddle, et al. (2001). "AUDIT: The alcohol use disorders identification test: Guidelines for use in primary health care."*  *Drummond, C., O. McBride, N. Fear and E. Fuller (2016). Alcohol dependence. Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey. S. McManus, P. Bebbington, R. Jenkins and T. Brugha. Leeds, NHS Digital.* | |
| Control  Adapted from MHQ1 | Hazardous / harmful alcohol use | | AUDIT full scale score under cut-off (8), excluding those who reported alcohol addiction in this questionnaire or reported at baseline they had stopped drinking due to illness, on drs advice or as a health precaution | {AUDIT score} <8  AND  NOT {ever alcohol dependence}  AND  NOT reason for reducing amount of alcohol drunk 2664 = “ill health”, “doctor’s advice”or “health precaution” [1,2or3] | A more stringent definition of control than non-caseness by excluding cases where participants may be recovering from alcohol harm/dependence. | |
| Cannabis (CU) | | | | | | |
| Exposure  Repeated from MHQ1 | Cannabis use ever | | Endorsed taking cannabis at least once in life. | Used cannabis (CU1) = Yes, 1-2 times (01) OR Yes, 3-10 times (02) OR Yes, 11-100 times (03) Yes, more than 100 times (04) |  | |
| Exposure  Repeated from MHQ1 | Daily cannabis use ever | | Maximum frequency of taking cannabis when using is every day | How often = Every day (04) | People will only answer this question if endorse at CU1 | |
| Harm behaviours (HB) | | | | | | |
| Symptom  Repeated from MHQ1 | Life not worth living ever | | Ever thought that life not worth living | Ever thought that life not worth living (HB1) = Yes, once (01) OR Yes, more than once (02) |  | |
| Case  Repeated from MHQ1 | Harm to self ever | | Deliberately harmed yourself, whether or not you meant to end your life | Deliberately harmed yourself (HB3) = Yes, once (01) OR Yes, more than once (02) | This category capture a mixture of intentions for people who harmed themselves, including not wanting to die, ambivalence, recklessness, or a clear wish to die. Where self harm was more than once, intent may have been different on different occasions. | |
| Case  New | Harm to self 12m | | As above, in the last 12 months | Deliberately harmed yourself (HB3) = Yes, once (01) OR Yes, more than once (02)  AND  In the last 12 months (HB4) = Yes (01) | As above | |
| Case  Repeated from MHQ1 | Suicide attempt ever | | Harmed yourself with the intention of ending your life | Harmed self with intent (HB6) = Yes, once (01) OR Yes, more than once (02) | Note that MHQ1 scoring included “Non-suicidal self harm”, the inverse of suicide attempt within people with harm behaviours. This was based on a dichotomy of intent to die but we recognise that such a dichotomy does not exist (the residual category will still include intents such as ambivalence and recklessness), and we do not recommend deriving “non-suicidal self harm” from this data. | |
| Trauma and other exposures section (ALE) | | | | | | |
| Exposure  Repeated from MHQ1 | Childhood adverse events | | Based on answers to the five questions of Childhood Trauma Screen (CTS). Screen is positive if any item is positive. | * Felt loved (ALE\_1b) = Sometimes true (02) OR Rarely true (01) OR Never true (00)   OR   * Physically abused by family (ALE\_1b) = Rarely true (01), Sometimes true (02), Often true (03) OR Very often true (04)   OR   * Felt hated by family (ALE\_1c) = Rarely true (01), Sometimes true (02), Often true (03) OR Very often true (04)   OR   * Sexually molested (ALE\_1d) = Rarely true (01), Sometimes true (02), Often true (03) OR Very often true (04)   OR   * Someone to take to doctor when needed as a child (ALE\_1e) = Often true (03), Sometimes true (02) OR Rarely true (01) OR Never true (00) | CTS takes one question from each domain of the Childhood Trauma Questionnaire. Thresholds taken from thresholds for represented domains in the CTQ. **Other scoring schemes are used for other surveys**.  *Walker, E. A., et al. (1999). "Adult health status of women with histories of childhood abuse and neglect." The American Journal of Medicine* ***107****(4): 332-339* | |
| Exposure  New | Adult abuse events | | Based on answers to questions about partner abuse. Screen positive if any item is positive | Stopped from seeing friends (ALE\_2a) = Yes, within the last 12 months (02) OR Yes, but not in the last 12 months (01)  OR  Belittled (ALE\_2b) = Yes, within the last 12 months (02) OR Yes, but not in the last 12 months (01)  OR  Hurt (ALE\_2c) = Yes, within the last 12 months (02) OR Yes, but not in the last 12 months (01)  OR  Touched without consent (ALE\_2d) = Yes, within the last 12 months (02) OR Yes, but not in the last 12 months (01)  OR  Sex without consent (ALE\_2e) = Yes, within the last 12 months (02) OR Yes, but not in the last 12 months (01) | Positive responses may indicate intimate partner abuse. | |
| Exposure  New | Adverse events 12 months | | Based on answers to question about partner abuse and other adverse events. Score positive if any items positive | Positive if any of:  Stopped from seeing friends (ALE\_2a) = Yes, within the last 12 months (02)  OR  Belittled (ALE\_2b) = Yes, within the last 12 months (02)  OR  Hurt (ALE\_2c) = Yes, within the last 12 months (02)  OR  Touched without consent (ALE\_2d) = Yes, within the last 12 months (02)  OR  Sex without consent (ALE\_2e) = Yes, within the last 12 months (02)  OR  Assault (ALE\_3a) = Yes, within the last 12 months (02)  OR  Injury or illness (ALE\_3b) = Yes, within the last 12 months (02)  OR  Divorce (ALE\_3c) = Yes, within the last 12 months (02)  OR  Death spouse (ALE\_3d) = Yes, within the last 12 months (02)  OR  Death suicide (ALE\_3e) = Yes, within the last 12 months (02) | Because this includes a wider range of events, it is **not a subset** of above “adult abuse events” | |
| Social section (SS) | | | | | | |
| Exposure  Repeated from baseline (touch-screen) | Social isolation | | More than one of the following:  -“Including yourself, how many people are living together in your household?=0  -“How often do you see friends or family in person?” = less than once a month  **-** “Which of the following do you attend in person?” =none | If Household (SS1)= Only me (00). Score +1  If See in person (SS2) = Never (00) or Once every few months (01). Score +1  Attend weekly (SS4) = None of the above (00). Score +1  EVALUATE  Score > 1 = positive | Score comparable with the computed social isolation score with UK Biobank baseline items  Elovainio, M., C. Hakulinen, et al. "Contribution of risk factors to excess mortality in isolated and lonely individuals: an analysis of data from the UK Biobank cohort study." The Lancet Public Health **2**(6): e260-e266 | |
| Exposure  New | Virtually connected | | See friends and family on video call at least once a week  OR  Attends groups virtually | Positive if:  Video calls (SS2a) = About once a week (03), 2-4 times a week (04) or Daily or almost daily (05)  OR  Virtual weekly (SS4a) **NOT**= None of the above (00) | Could be combined with above to give physically isolated but virtually connected | |
| Score  New | Short scale UCLA loneliness | | Score three items from Hardly ever (1) to Often (3), then sum. Total score 3-9, with 3 indicating being the least lonely and 9 being the most. | Sum scores on individual items after converting to 1-3:  Companionship (SS7)  Left out (SS8)  Isolated (SS9) | “A Short Scale for Measuring Loneliness in Large Surveys: Results From Two Population-Based Studies” Hughes, Waite, Hawkley and Cacioppo 2004, Research on Aging  There are two further questions included for compatibility / comparison with previous UKB surveys:  SS3 “How often are you able to confide…” and SS6 “In tune with the people around you”. Those are **not included in this score** | |
| Score  New | Brief Resilience Scale | | The Brief Resilience Scale is scored by reverse coding items 2, 4, and 6 (scored 1 to 5) and summing to give a range from 6-30. Divide the total by the total number of questions answered. | SUM  Bounce back (BRS1), recover (BRS3) and little trouble (BRS5), score:   1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree   Hard time (BRS2), hard to snap back (BRS4), and setbacks (BRS6) score:  5. Strongly disagree  4. Disagree  3. Neutral  2. Agree  1. Strongly agree  DIVIDE BY  6 | The following interpretation is sometimes used:  1.00-2.99 - Low resilience  3.00-4.30 - Normal resilience  4.31-5.00 - High resilience  Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. International journal of behavioral medicine, 15(3), 194-200. | |
| COVID section (CV) | | | | | | |
| Exposure  New | COVID (any strength of suspicion) | | Endorses had COVID at least once | How many times do you think you have had COVID-19 (CV1) = dropdown 1+  (excluding “I do not know how many” (01) and “I do not know if I have had” (DK)) | Could also set at 2+ for recurrent episodes | |
| Exposure  New | COVID high likelihood | | Endorses COVID with PCR, LFT or medical suspicion | When you first had COVID-19 (CV3) = confirmed by PCR test (05) OR confirmed by a positive rapid lateral flow test (04) OR based on medical advice (02)  OR  When you had COVID-19 most recently (CV5) = confirmed by PCR test (05) OR confirmed by a positive rapid lateral flow test (04) OR based on medical advice (02) |  | |
| Case  New | Long COVID suspected | | Last episode of COVID was >12wks ago and not back to normal | When do you think you first had (CV2) = prior to Aug 2022  AND  When COVID-19 most recently (CV4) = prior to Aug 2022  AND  Do you feel you have recovered (CV6) = No, not at all (03) OR No, getting worse (04) |  | |