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| **Code list Checklist\*: Body Mass Index (BMI)** | |
| **Metadata** | |
| Title | Body Mass Index |
| Name | bmi |
| Author | Helen Strongman |
| Target data source | Clinical Practice Research Datalink Aurum (March 2023)  (Note codelists not needed for CPRD GOLD) |
| Terminology | SMOMED-CT, EMIS |
| **Definition of clinical concept** | |
| Concept | Body Mass Index (BMI) measurements.  The aim was to identify all clinical codes that represent a current height and weight or BMI measurement in CPRD Aurum data.  Codes indicating BMI measurements during pregnancy were excluded.  Codes were categorised using separate height, weight and BMI variables. |
| Timeframe | No restrictions |
| Accuracy | The search strategy prioritised sensitivity over specificity unless the codes indicated that an incorrect value might be associated with it (e.g. BMI centile, ideal weight). Codes rarely associated with a value were ignored as these were excluded during data processing. |
| Setting | BMI recorded in primary care |
| **Identify and evaluating existing code lists** | |
| Source searched | Contacted LSHTM researchers to find latest version of BMI code list |
| Existing code lists found | **Original**  Date updated: 2023-03-10  Updated by: Angel Wong  Clinical advisors: not known  Date updated: 2023-09-06  Updated by: Helen Strongman  Clinical advisors: not needed  Changes: updated and created shareable version for Github  (Version 1) |
| **Create a new code list** | |
| Synonyms | Weight, height, BMI and body mass +/- index. |
| Exceptions | BMI during pregnancy |
| Methods used | A script of lower-case search terms was used to identify relevant Read, medcodeid and snomedctconceptid fields in the CPRD medical dictionaries. Terms anywhere in the string were permitted. An additional search of Read chapters was undertaken. |
| Search terms | Key: \* = wildcard, ## = space. This makes it easier to identify multi-word strings.  **Inclusion:** body\*mass\*index, bmi, weight, height and obese    **Exclusions:** child\*mth\*exam child\*month\*exam in\*childhood obese##child los submit sitting advice from\*height premature birth intervention target mid-parental##height weighted management ratio predict regimen diet symptom weightless bear uter lift ideal\*weight sweat fixation calculus sample baby work score decline concern not##done eyelid infant trend reference heightened knee##height heparin fall fetal has##grown perception not##done footwear fear growth dates injury transfer procedure bp fundal kininogen transfer placenta standard unsuitable furniture overestimate underestimate percentage velocity preoccupation appraisal dry property chart education step ##centile reason difference discuss impaired counterweight pregnancy usual##weight usual##body##weight maternal kg postnatal (amount) orlistat weights abdomen weight##for##height |
| Hierarchy used to extend search | N/A |
| Decisions made while iterating | N/A |
| (Optional) Categories | Weight codes (include weight)  Height codes (include height)  BMI codes (include body##mass##index bmi obese obesity) |
| **Review, finalise and publish** | |
| Reviewers | Helen Strongman |
| Scope of review | The draft Aurum code list was compared to a previous version created by Angel Wong. All inclusion and exclusion codes were reviewed. |
| Evidence of review | The process is documented HTML file:  codelist\_bmi\_derivation\_aurum.html  codelist\_bmi\_derivation\_gold.html  (see resources published section) |
| Internal checks | Undertaken by Helen Strongman checks for new inclusion/exclusion terms. None needed. |
| External checks | Not completed. |
| Code list published | The code list is published on the project’s LSHTM Data Compass page: <https://doi.org/10.17037/DATA.00004742>.  And in the study’s Github repository at:  <https://github.com/hstrongman/OSA-narc-CPRD-chronology> (Aurum March 2023)  Files comprise:  codelist\_bmi\_aurum.txt  codelist\_bmi\_aurum.dta |
| Resources published | Bhaskaran K, Forbes HJ, Douglas I, et al. Representativeness and optimal use of body mass index (BMI) in the UK Clinical Practice Research Datalink (CPRD).  BMJ Open 2013;3:e003389. doi: 10.1136/bmjopen-2013-003389  The above study compared observed BMI distributions in CPRD GOLD to HSE data. It used numerical data which can be found in the Additional file in the paper (identified using enttypes). This followed an analysis showing that additional Read code searches added minimal information.  The Do files and HMTL documents describing the code list derivation and search strategy are in the study’s GitHub repository.  Files include:  codelist\_bmi.do (refers to associated text files)  codelist\_bmi\_description.html (early version of this checklist)  codelist\_bmi\_derivation\_aurum.html |

\*Matthewman J, Andresen K, Suffel A, Lin LY, Schultze A, Tazare J, Bhaskaran K, Williamson E, Costello R, Quint J, Strongman H. Checklist and guidance on creating codelists for routinely collected health data research [version 2; peer review: 3 approved]. NIHR Open Res. 2024 Sep 18;4:20.