The Northern Sweden Diet Database (NSDD)

Requisition of diet data  
<https://www.umu.se/en/biobank>

User name

Inst/Univ

Address

Postal code, city

E-mail

Telephone no       Date

Project title

Brief administrative information regarding the research project:

|  |  |  |
| --- | --- | --- |
| i. Ethics application is: | Under review  Approved (application and decision attached)  Documents already with the Section of Biobank and Registry Support (BRS),  dnr: | |
| ii. Does the project include statistical analysis of biological data  (e.g. blood lipids)? (If so, a separate application to BRS is required. For more information see <https://www.umu.se/en/biobank>) | | Yes  No | |

General information about data withdrawal

1. The request to withdraw data from the NSDD at BRS is approved by Prof. Anna Winkvist, PI of the NSDD.

2. Research project that includes analysis of both biological samples and diet data is evaluated and approved in its entirety by the relevant Expert Group at BRS following approval by the PI of the NSDD with regard to withdrawal of relevant diet data.

3. Application to obtain additional clinical and/or lifestyle data (e.g. blood lipids and marital status) from the Västerbotten Intervention Program (VIP) and/or the MONICA Study require separate applications to be submitted to the BRS secretariat. For more information see: <https://www.umu.se/en/biobank>.

A. Provide a short description of the aim and overall design of the research project (if the space below is not enough, please complete in a separate document and attach):

Information about the research project  
([Example HERE](https://www.umu.se/globalassets/organisation/fakulteter/medfak/enheten-for-biobanksforskning/uttag/dta-example-eng-19may2016--2-.pdf))

B. Provide a short motivation for the use of the requested diet variables in relation to the aim of the research project (if the space below is not enough, please complete in a separate document and attach):

Signatures (by which the applicant approve the general regulations outlined on page 12)

Signature by the applicant Printed name

Date and signature of NSDD representative Printed name

Specification of Available Diet Data in the NSDD

A short overview of the different sources of diet data available in the NSDD, collected within the framework of DietVIP (originating from the Västerbotten Intervention Project) and DietMON (originating from the MONICA-screenings) is given below. Additional information related to the questionnaires is available on the NSDD homepage ([Kostdatabasen - NSDD (Northern Sweden Diet Database)](https://www.umu.se/brs/provsamlingar-och-register/kostdatabasen/)).

DietVIP:

1991-1992: manually entered ”long” FFQ: 84 food items\*

1992-1996: optically read ”long” FFQ: 84 food items\*

1996-2021: optically read ”short” FFQ: 64-66 food items

\* *Where possible, food frequencies obtained through the long FFQ have been harmonized with the short version*

DietMON:

1986: 82 food items

1990: 49 food items

1994, 1999, 2004, 2009: 84 food items (identical to the long FFQ in DietVIP)

2014: 85 food items (one question added regarding intake of egg and egg dishes)

2022: Updated and digitalized FFQ2020 was used. Apply for dietary data with separate application form, contact [info.brs@umu.se](mailto:info.brs@umu.se).

1. Specify the requested source(s) of diet data relevant for the withdrawal (if relevant, also specify years).

DietVIP, ”long” FFQ (84 food items) Specified year(s):       ­­

DietVIP, ”short” FFQ (64-66 food items) Specified year(s):

DietMON, ”long” FFQ (84 food items, Specified year(s):

applies for all years except for 1990)

Does the project include cross-sectional- and/or longitudinal analyses?

Cross-sectional analysis

Longitudinal analysis

1. If relevant, provide specific criteria for the participants for which diet data are requested  
   (e.g. in case of case-control studies like CASTRO, or FIA)

4. Indicate preferred file format

SAS

Excel (Note! Variable labels will be lost)

SPSS

STATA

1. Requested Background Variables

|  |  |  |
| --- | --- | --- |
| Group | **Variable** | **Categorization** |
| ID-variables | id/pidnr | Study specific person unique identifier (dietVIP/dietMON) |
| These variabels are always delivered, as appropriate | enummer/mo\_seqno | Visit unique identifier (dietVIP/dietMON) |
| case\_control | 1 = Case  0 = Control |
| case\_set | Set for case/control |
| Background variables: | age | Age at date of sampling (year) |
| research participants  These variables are always delivered.  Withdrawal of additional clinical and/or lifestyle-related data from VIP and/or MONICA requires a separate application to the BRS secretariat to be submitted, for more information see: <https://www.umu.se/en/biobank> | agr10 | Age group according to:  1=<35 year, 2=35->45 year, 3=45-<55 year, 4=55-<65 year, 5=≥65 year |
| gender | 1=male, 2=female |
| langd | Body height in cm |
| vikt | Body weight in kg |
| BMI | Body mass index: weight (kg) divided by length (m) squared (kg/m2). |
| utbild | Education (highest degree obtained) |
| sm\_status | Smoking status |
| g6, MONICA\_motion\_fritid\_86\_09 | Leisure time physical activity |
| Background variables:  FFQ  These variables are always delivered | antfrag | ***Number of food items in the FFQ.***  Variable can be used if you have all types of surveys in your dataset and need to separate them into the broad categories of ***"very short survey"*** (e.g. MON90 with only 49 questions), ***"short survey"*** (VIP FFQs with 64-66 questions), and ***"long survey"*** (VIP and MON FFQs with 82-85 questions). |
| enkver | ***Indicates the specific FFQ version used in full detail.*** Not commonly used by researchers. |
| enkver2 | ***Indicates main type of FFQ version used.*** Based on the number of food items and how information was entered into the database:  **apri** = 84 food items, manually entered FFQ (dietVIP)  **long** = 84 food items, optically read FFQ (dietVIP)  **short** = 64-66 food items, optically read FFQ (dietVIP)  **mon**= 84 food items (except for 1990 with 49 food items), optically read (dietMON) |
| exclude | ***Indicates level of insufficient diet data:***  0 = Complete set of portion size indications and ≤ 10% of food frequencies missing  1 = > 10% of food frequencies missing  2 = portion size indications is not complete |
|  | missport | Number of portion size indications missing |
|  | missproc | Proportion of food frequencies missing (%) |
|  | FIL | ***Food Intake Level***  FIL = reported energy intake/ BMR  BMR = Basal Metabolic Rate  FIL is used to assess the degree of under- or overestimated dietary intake (Goldberg et al. 1991). Generally it is recommended that the 1 % minimum and the 1 % maximum FIL values based on distribution throughout the entire dietary database are excluded as unreasonable. A more stringent criteria may however be used depending on the research question. |
| potport | Average portion size of potatoes/rice/pasta based on a photographic illustration with four alternative sizes |
| kottport | Average portion size of meat/fish based on a photographic illustration with four alternative sizes |
| gronport | Average portion size of vegetables based on a photographic illustration with four alternative sizes |
|  | q\_date | Date of the health examination (YYMMDD) |
|  | year | Year of the health examination/FFQ (YYYY) |
|  | scrnr | ***Participated in the MONICA screening round(s):*** 1=1986, 2=1990, 3=1994, 4=1999, 5=2004, 6=2009, 7=2014, 41=1999 and 1986, 42=1999 and 1990, 43=1999 and 1994 |

1. **Requested Dietdata**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | **Variable** | **Clarification** | **da, gramlong,**  **ma\*** | **dat, gramshort, mat\*** |
| Unit of food intake  Note! Unit needs to be defined if food intakes are requested | frequency/day  (da01-da86 for long FFQ, dat01-dat66 for short FFQ)  gram/day  (gramlong01-86 for long FFQ, gramshort01-66 for short FFQ)  raw data frequeny  (ma01-ma84 for long FFQ, mat01-mat66 for short FFQ) | Food intake converted to frequency per day  Food intake converted to gram/day  Food intake frequency, original raw data from questionnaire  1-9 (1=never, 2=once a year, 3=1-3 times/month, 4=once a week, 5=2-3 times/week, 6=4-6 times/week, 7=once a day, 8=2-3 times/day, 9=4 times/day or more) | − | − |
| Foods | Bregott on bread |  | 1 | 1 |
|  | Butter on bread |  | 2 | 2 |
|  | Low fat margarine on bread |  | 3 | 3 |
|  | Margarine on bread |  | 4 | 4 |
|  | Butter for cooking |  | 5 | 5 |
|  | Margarine for cooking |  | 6 | 6 |
|  | Oil for cooking |  | 7 | 7 |
|  | Salad dressing with oil |  | 8 | 8 |
|  | Cream, crème fraiche, sour cream |  | 9 | 9 |
|  | Whole grain crisp bread  (t ex Wasa) |  | 10 | 10 |
|  | Whole grain soft bread |  | 11 | 11 |
|  | White (soft) bread |  | 12 | 12 |
|  | Thin crisp bread | Incorporated in *’white (soft) bread’* in the short FFQ (after 1995) | 13 | 12 |
|  | Coffee rolls/buns, rusk |  | 14 | 13 |
|  | Cheese 28% (e.g. Grevè) |  | 15 | 14 |
|  | Cheese 10-17% (e.g. Drabant) |  | 16 | 15 |
|  | Soft cheese | Food item removed in the short FFQ (after 1995) | 17 | − |
|  | Soft whey cheese (messmör) | Food item removed in the short FFQ (after 1995) | 18 | − |
|  | Sausage on bread |  | 19 | 16 |
|  | Meat on bread |  | 20 | 17 |
|  | Liver pàté on bread | Incorporated in *’sausage on bread’* in the short FFQ (after 1995) | 21 | 16 |
|  | Oatflake porridge | Incorporated in *’whole wheat, rye, or barley porridge*’ in the short FFQ (after 1995) | 22 | 18 |
|  | Whole wheat, rye, or barley porridge |  | 23 | 18 |
|  | Rosehip, sweet syrup soup |  | 24 | 19 |
|  | Sour milk, yoghurt, 3% fat |  | 25 | 20 |
|  | Sour milk, yoghurt, low fat |  | 26 | 21 |
|  | Fiber cereals (e.g. muesli) |  | 27 | 22 |
|  | Corn flakes |  | 28 | 23 |
|  | Berries, fresh or frozen |  | 29 | 24 |
|  | Apple, pear, peach |  | 30 | 25 |
|  | Orange, mandarin, grapefruit | Incorportade in *’apple, pear, peach’* in the short FFQ (after 1995) | 31 | 25 |
|  | Banana |  | 32 | 26 |
|  | White cabbage | Incorporated in *’lettuce, lettuce cabbage’* in the short FFQ (after 1995) | 33 | 29 |
|  | Root vegetables, carrot |  | 34 | 27 |
|  | Tomato, cucumber |  | 35 | 28 |
|  | Lettuce, lettuce cabbage |  | 36 | 29 |
|  | Spinach, borecole | Incorporated in *’lettuce, lettuce cabbage’* in the short FFQ (after 1995) | 37 | 29 |
|  | Mixed frozen vegetables | Food item removed in the short FFQ (after 1995) | 38 | − |
|  | Boiled or baked potato |  | 39 | 30 |
|  | Fried potato |  | 40 | 31 |
|  | Pommes frites | Incorporated in *’fried potato’* in the short FFQ (after 1995) | 41 | 31 |
|  | Mashed potato | Food item removed in the short FFQ (after 1995) | 42 | − |
|  | Potato salad | Food item removed in the short FFQ (after 1995) | 43 | − |
|  | Rice |  | 44 | 32 |
|  | Pasta |  | 45 | 33 |
|  | Brown beans, pea soup |  | 46 | 34 |
|  | Blöta (broth + bread) | Food item removed in the short FFQ (after 1995) | 47 | − |
|  | Pancake, waffle |  | 48 | 35 |
|  | Swedish (potato) dumpling | Incorporated in *’pancake, waffle’* in the short FFQ (after 1995) | 49 | 35 |
|  | Pizza |  | 50 | 36 |
|  | Minced meat dishes |  | 51 | 37 |
|  | Meat stew |  | 52 | 38 |
|  | Steak, chop, e.g. |  | 53 | 39 |
|  | Bacon |  | 54 | 40 |
|  | Sausage as main dish |  | 55 | 41 |
|  | Hamburger |  | 56 | 42 |
|  | White meat (poultry) |  | 57 | 43 |
|  | Blood-based food | Food item removed in the short FFQ (after 1995) | 58 | − |
|  | Liver, kidney | Food item removed in the short FFQ (after 1995) | 59 | − |
|  | Lean fish (e.g. perch, bass, cod) |  | 60 | 44 |
|  | Fatty fish (e.g. (Baltic) herring, whitefish, salmon sik, lax) |  | 61 | 45 |
|  | Shellfish (e.g. shrimps, scallops) | Food item removed in the short FFQ (after 1995) | 62 | − |
|  | Salty fish |  | 63 | 46 |
|  | Smoked fish/meat |  | 64 | 47 |
|  | Ice cream |  | 65 | 48 |
|  | Sweets (chocolate, candy) |  | 66 | 49 |
|  | Sugar, honey |  | 67 | 50 |
|  | Marmelade, jam | Incorporated in *’sugar, honey*’ in the short FFQ (after 1995) | 68 | 50 |
|  | Cookies, pastry |  | 69 | 51 |
|  | Chips, salty nuts, popcorn |  | 70 | 52 |
|  | Milk, 0,5% fat |  | 71 | 53 |
|  | Milk, sour milk, 1,5% fat |  | 72 | 54 |
|  | Milk, 3% fat |  | 73 | 55 |
|  | Soft drinks | Incorporated in *’sodas*’ in the short FFQ (after 1995) | 74 | 56 |
|  | Sodas (e.g. Coca-cola) |  | 75 | 56 |
|  | Juice | Incorporated in *’sodas*’ in the short FFQ (after 1995) | 76 | 56 |
|  | Brewed (filtered) coffee |  | 77 | 57 |
|  | Boilded coffee |  | 78 | 58 |
|  | Tea |  | 79 | 59 |
|  | Light beer |  | 80 | 60 |
|  | Medium beer |  | 81 | 61 |
|  | Strong beer |  | 82 | 62 |
|  | Wine |  | 83 | 63 |
|  | Liquor, spirits |  | 84 | 64 |
|  | Water | Available from 1995 | − | 65 |
|  | Egg, egg dishes, omelet | Available from 2000 | − | 66 |

**\***Information relevant for the data administrators at the Section of Biobank Registry Support

1. **Requested nutritional data**

|  |  |  |
| --- | --- | --- |
| Group | **Variable** | **Clarification** |
| Nutritional | ensum1 | Total energy intag (kcal/day) |
| variables | protsum1 | Protein (g/day) |
|  | protsum1\_anim | Animal based protein (g/day) |
|  | protsum1\_veg | Plant based protein (g/day) |
|  | kolhsum1 | Carbohydrates (g/day) |
|  | sacksum1 | Sucrose (g/day) |
|  | DISAsum1 | Disaccharides (g/day) |
|  | MOSAsum1 | Monosaccharides (g/day) |
|  | fibesum1 | Fibre (g/day) |
|  | FULLKsum1 | Whole grain (g/day) |
|  | alkosum1 | Alcohol (g/day) |
|  | fettsum1 | Fat (g/day) |
|  | mfetsum1 | Saturated fat (g/day) |
|  | MONOsum1 | Monounsaturated fat (g/day) |
|  | POLYsum1 | Polyunsaturated fat (g/day) |
|  | TRANSsum1 | Trans fat (g/day) |
|  | kolesum1 | Cholesterol (g/day) |
|  | FA140\_sum1 | Formic acid (g/day) |
|  | FA160\_sum1 | Palmitic acid (g/day) |
|  | FA182\_sum1 | Linoleic acid (g/day) |
|  | FA183\_sum1 | Linolenic acid (g/day) |
|  | FA204\_sum1 | Arachidonic acid (g/day) |
|  | FA205\_sum1 | Eicosapentaenoic acid, EPA (g/day) |
|  | FA226\_sum1 | Docosahexaenoic acid, DHA (g/day) |
|  | FA150\_sum1 | Pentadecanoic acid (g/day) |
|  | FA170\_sum1 | Heptadecanoic acid (g/day) |
|  | MAGNsum1 | Magnesium (mg/day) |
|  | NATRsum1 | Sodium (mg/day) |
|  | FOSFsum1 | Phosphate (mg/day) |
|  | selesum1 | Selenium (µg/day) |
|  | ZINCsum1 | Zinc (mg/day) |
|  | retisum1 | Retinol, vitamin A (µg/day) |
|  | karosum1 | Beta-carotene (µg/day) |
|  | TIAMsum1 | Tiamin (mg/day) |
|  | Folasum1 | Folic acid (folate) (µg/day) |
|  | B2sum1 | Riboflavin, vitamin B2 (mg/day) |
|  | NIACsum1 | Niacin, nicotinic acid, vitamin B3 (mg/day) |
|  | B6sum1 | Vitamin B6 (mg/day) |
|  | B12sum1 | Vitamin B12 (µg/day) |
|  | askosum1 | Ascorbite acid, vitamin C (mg/day) |
|  | Dsum1 | Vitamin D (µg/day) |
|  | tokosum1 | Tocopherol, vitamin E (mg/day) |
|  | VITKsum1 | Vitamin K (µg/day) |
|  | jernsum1 | Iron (mg/day) |
|  | JODIsum1 | Iodine (µg/day) |
|  | kalcsum1 | Calcium (mg/day) |
|  | KALIsum1 | Potassium (mg/day) |
| Specifically estimated | Bstrsum1 | Beta-sitosterol (mg/day) |
| nutritional variables | Bstnsum1 | Beta-sitostanol (mg/day) |
|  | Cstrsum1 | Campesterol (mg/day) |
| Withdrawal and usage of specifically estimated nutritional variables require approval by the originator (will be attended to by the representative of the  NSDD as needed) | Cstnsum1 | Campestanol (mg/day) |
| Sstrsum1 | Stigmasterol (mg/day) |
| Tstrsum1 | Sum of BSTR-, BSTN-, CSTN-, CSTR- and sstrs-sum1 (mg/day) |
| Lig\_Endsum1 | Enterodiol (µg/day) |
| Lig\_Enlsum1 | Enterolactone (µg/day) |
| Lig\_Equsum1 | Equol (µg/day) |
| Lig\_Larsum1 | Lariciresinol (µg/day) |
| Lig\_Matsum1 | Matairesinol (µg/day) |
| Lig\_Medsum1 | Medioresinol (µg/day) |
| Lig\_Pinsum1 | Pinoresinol (µg/day) |
| Lig\_Secsum1 | Secoisolariciresinol (µg/day) |
| Lig\_Syrsum1 | Syringaresinol (µg/day) |
| Lig\_Sumsum1 | Sum of all lignans above (µg/day) |
|  | Lig4sumsum1 | Sum of Lig\_Larsum1, Lig\_Matsum1, Lig\_Pinsum1, and Lig\_Secsum1 (µg/day) |
| Supplements | nosuppl | Have not taken supplements during the past 14 days or during the past year |
|  | nosuppl\_year | Have not taken supplements during the past 14 days |
|  | nosuppl\_14day | Have not taken supplements during the past 14 days |
| Data available from 1992  (i.e. information on intake of supplements were not collected on the manually entered long, 84 food items, FFQ) | multivitaminsuppl | Have you taken multivitamins during the last 14 days or during the past year? |
| multivitamin\_year | Have you taken multivitamins during the past year? |
| multivitamin\_14day | Have you taken multivitamins during the last 14 days? |
| multimineralsuppl | Have you taken multiminerals during the last 14 days or during the past year? |
| multimineral\_year | Have you taken multiminerals during the past year? |
| multimineral\_14day | Have you taken multiminerals during the last 14 days? |
| jernsuppl | Have you taken iron supplements during the last 14 days or during the past year? |
| jernsuppl\_year | Have you taken iron supplements during the past year? |
| jernsuppl\_14day | Have you taken iron supplements during the last 14 days? |
|  | selensuppl | Have you taken selenium supplements during the last 14 days or during the past year? |
|  | selensuppl\_year | Have you taken selenium supplements during the past year? |
|  | selensuppl\_14day | Have you taken selenium supplements during the last 14 days? |
|  | othersuppl | Have you taken other supplements during the last 14 days or during the past year? |
|  | othersuppl\_year | Have you taken other supplements during the last year? |
|  | othersuppl\_14day | Have you taken other supplements during the last 14 days? |

|  |  |  |
| --- | --- | --- |
| Other diet-related variables | L1 | ***Breakfast habits (0-6):***  0=only coffee/tea, 1=coffee/tea and sandwich, 2= coffee/tea and wheat buns or rusk, 3=sour milk, cereals, w/o sandwich, 4=porridge, w/o sandwich, 5=gruel, w/o sandwich, 6=do not eat breakfast at all  **NOTE!** Alt. 0 is only available in the short FFQ, i.e. from 1996 |
|  | L3 | ***Which of the following best describes you?***  1=normal diet  2=vegan diet  3=lacto-vegetarian diet |
|  | L4a-e, 1-12 (question L4 in the long FFQ) | ***Snacks between meals during a day***  a-e indicate snack occasion (1-5 per day).  1-12 specify snack content: 1=fruit, 2=sandwich, 3=coffee rolls/cookie, 4=pastry, 5=sweet syrup soup, 6=candy, 7=ice cream, 8=soda, 9=soft drink, 10=milk/hot chocolate/sour milk, 11=juice, 12=coffee/tea  **NOTE!** Only available in the long FFQ, i.e. up until 1996 |
|  | L5a | ***Do you usually eat breakfast?***  (1=yes, 2=no) from 2000  (only available in DietVIP) |
|  | L5b | ***Do you usually eat lunch?***  (1=yes, 2=no) 1992-1996 and from 2000  (only available in DietVIP) |
|  | L5c | ***Do you usually eat dinner?***  (1=yes, 2=no) 1992-1996 and from 2000  (only available in DietVIP) |

**Regulations in connection to data withdrawal from the Northern Sweden Diet Database (NSDD)**

1. Data will not be delivered to the applicant until the research project has been approved by the Regional or Central Ethical Review Board, and the approval along with the ethics application has been submitted to the Section of Biobank and Registry upport.
2. Where appropriate, additional approval from individuals involved in data collection and/or processing need to be obtained (e.g. utilizing disease registries or specific nutritional variables).
3. The applicant is under no circumstances allowed to distribute or use diet data obtained from the NSDD for other purposes than stated in the approved withdrawal request.
4. Publication: All publication of data and/or results emanating from DietVIP and/or DietMON should be done in consultation with a representative of the diet database (NSDD); Anna Winkvist.
5. Guidelines for co-authorship follow the criteria set up by the ”International Committee of Medical Journal Editors (ICMJE)”. To create, maintain and update infrastructure and data processing related to present cohort studies signify considerable scientific contribution, that together with intellectual input regarding design and/or interpretation of results during the process of drafting a manuscript justify co-authorship.
6. Acknowledgements: It is important to properly acknowledge those who have supported the study (incl. data collection). In case of limited contribution, it can be enough with a general acknowledgement, e.g. … *the funds supporting the Northern Sweden Diet Database and the Västerbotten Intervention Project and/or the MONICA project are acknowledged*”. The Swedish Research Council should **always** be acknowledged for the support in building-up the diet database. Those who have been involved in data collection should be consulted regarding the wording.

Application (and ethics application/approval) is sent to: Anette Forsgren

The Section of Biobank Registry Support

Umeå University

SE-901 87 Umeå

Sweden

[info.brs@umu.se](mailto:info.brs@umu.se)