Data from the Norwegian Mother, Father and Child Cohort

- Variable list -

|  |  |
| --- | --- |
| **Project title** |  |
| **Principal investigator (PI)** |  |
| **Date** |  |

1 General information 1

2 Linkage to other data sources 3

3 Standard variables in MoBa 4

4 Data based on free text and data collected as part of sub-studies in MoBa 21

5 Calculated variables 23

6 Biological data products 28

Appendix A Flow charts illustrating linkage methods 1

# General information

Only relevant data required to answer the project’s aim(s) may be requested to comply with Norwegian legislation. The requested data must be in accordance with the approval given to the project by the Regional Committees for Medical and Health Research Ethics (REK) and must comply with the Personal Data Act and the EU General Data Protection Regulation (GDPR). The Norwegian Mother, Father and Child Cohort (MoBa) reserves the right to deny access to requested data to ensure the participants privacy.

Please complete the form electronically and submit as PDF with the application. Printed and manually completed forms may be rejected by MoBa.

For questions regarding this form, please contact [MorBarnData@fhi.no](mailto:MorBarnData@fhi.no). For general information regarding application for access to data, please see the MoBa [website](https://www.fhi.no/en/op/data-access-from-health-registries-health-studies-and-biobanks/data-from-moba/research-and-data-access/).

|  |
| --- |
| **Note!** **From 15 March 2023 variables from the Medical Birth Registry of Norway (MBRN) will no longer be available through MoBa.** |

## Biological material from MoBa

If biological material from MoBa is requested, please fill out the [MoBa biological material form](https://www.fhi.no/publ/2019/skjema-for-bestilling-av-data-og-bio-i-MoBa/), and submit it with the application to MoBa, together with the variable list.

## Language and file format

Files are only available in SPSS file format.

|  |  |
| --- | --- |
| 1.1 Choose desired language and data file format | |
| Labels: | |  |  |  |  | | --- | --- | --- | --- | |  | Norwegian |  | English | |

## Invoice information

***If the access fee will be charged an institution other than NIPH:***

Please fill in the requested invoice information to be used to charge the access fee for the applied research project based on MoBa.

If you apply for a *new* research project based on MoBa and have completed this section as part of your application form at [www.helsedata.no](http://www.helsedata.no), you may go directly to section 2.

|  |  |
| --- | --- |
| 1.2 Invoice address | |
| Is the invoice address equal to the responsible research organisation address? | Yes  No |

|  |  |
| --- | --- |
| 1.3 Complete if applicant is not employed at NIPH (Norwegian: FHI) | |
| Name of institution |  |
| Invoice name |  |
| Invoice address |  |
| Postal code |  |
| Postal address |  |
| Country |  |
| Invoice reference required by the Principal Investigator´s institution |  |
| Electronic invoice |  |

*If the access fee will be charged NIPH:*

|  |  |
| --- | --- |
| 1.4 Complete if applicant is employed by NIPH (Norwegian: FHI)  *If assistance is required, please contact the person who is responsible for economy in your department and/or the research project.* | |
| Department (including short name)  *(Koststed inkludert forkortelse)* |  |
| Project number in agresso (5 digits)  *(Prosjektnummer agresso (5 siffer) )* |  |
| Activity number  *(Aktivitetsnummer)* |  |
| Kap. post number 1  *(Kapittelpostnummer)* |  |

1 Usually 074501 for internally funded projects and 074521 for externally funded projects

# Linkage to other data sources

Fill in information about data sources to be accessed in the project other than MoBa.

|  |
| --- |
| 2.1 Does the project require data from data sources other than MoBa |
| Yes  No |
| Please specify other data sources:  1.  2.  … |
| *If the project has contact information (name, e-mail, reference number) for the other registries/data sources please specify this here.* |

|  |
| --- |
| 2.2 Select the individuals for linkage to other data sources |
| Individuals:  Mother  Father  Child |
| Individuals (selected above) from the complete MoBa Cohort |
| Individuals (selected above) from a sub-group of the MoBa Cohort |

|  |
| --- |
| 2.3 Select linkage method (See description of linkage methods in [Appendix A](#AppendixA)) |
| |  |  |  |  | | --- | --- | --- | --- | |  | Distributed linkage (DL) *(preferred method)* |  | Centralised at a pseudonymous register (CL2) | |  | Centralized at MoBa (CL1) |  | Other (please specify below) | |

|  |
| --- |
| 2.4 If other linkage method, please specify or attach a data flow document: |
|  |

# Standard variables in MoBa

Please check the standard MoBa variables required to answer the project’s aim(s). The MoBa questionnaires and instrument documentation are available at the MoBa [website](https://www.fhi.no/en/studies/moba/for-forskere-artikler/questionnaires-from-moba/).

Data based on free text variables are not part of MoBa standard data file and must be specified in Section 4.

Standard variables are grouped based on instruments used to construct the questionnaires. By checking the box (x) for a variable group, all variables in this group are selected. For reference purposes, the question numbers from a selected version of the questionnaire are given for each variable group. Any variable group includes all related variables from relevant questionnaire versions.

*Example:*

*By checking the variable group “Mother’s Height and Weight” in Q1, variables related to q.no 23-24 in Version A and 26-27 in Version B/C/E are selected.*

## Questionnaire 1 (Q1) - around week 17 of pregnancy

| **Question no. in Version E** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1-10 | Menstruation |  |
| 11-26 | Contraception and Pregnancy |  |
| 27-28 | Mother’s Height and Weight |  |
| 29-30 | Father’s Height and Weight |  |
| 31-35 | Previous Pregnancies |  |
| 36-37 | Vaginal Bleeding during this Pregnancy |  |
| 38 | Illness and Health Problems during this Pregnancy [[1]](#endnote-1) |  |
| 39 | Previous and Current Illnesses and Health Problems 1 |  |
| 40-44 | Other Illnesses/Health Problems and Medicines *(including birth defect, gum bleeding, diabetes, and the use of other medicines)* 1 |  |
| 45-46 & 48 | Vitamins and Supplements |  |
| 49-50 | Civil Status and Education |  |
| 51-56 | Work Situations |  |
| 59-62 | Strains at Work |  |
| 63-67 | Exposure to Radiation |  |
| 68 | Exposure to Harmful Substances |  |
| 69-71 | Exposure to Noise and Animals |  |
| 72-74 | Family Household |  |
| 75-78 | Language Backgrounds and Language(s) Spoken at Home |  |
| 79-81 | Income and Housing |  |
| 82-86 | Exposure to fungus, mould and illness at home |  |
| 87-104 | Smoking and other forms of nicotine *(maternal smoking habits, mother’s exposure to passive smoking)* |  |
| 105 | Drinking Soda, Coffee, Juice or Milk |  |
| 106 | Intake of Drugs |  |
| 107-109 | Intake of Alcohol |  |
| 110-115 | Alcohol Consumption and Drinking Behaviours |  |
| 116 | Rutgers Alcohol Problems Index (RAPI) *(5 items)* |  |
| 117-122 | Weight Control and Mother’s Eating Disorders |  |
| 123-129 | Leakage of urine |  |
| 130-132 | Physical Activity |  |
| 133 | Life Satisfaction *(5 items, Satisfaction With Life Scale (SWLS))* |  |
| 134 | Partnership Satisfaction *(10 items, Relationship Satisfaction Scale (RSS))* |  |
| 135-137 | Social relations and social support |  |
| 138 | Depression/Anxiety during Pregnancy *(Short version of (Hopkins) Symptoms Checklist (SCL-5))* |  |
| 139-140 | Past history of abuse |  |
| 141 | Self Esteem *(4 items, Short version of the Rosenberg Self-Esteem Scale (RSES))* |  |
| 142-144 | Life Time History of Major Depression *(LTH of MD)* |  |
| Ver. A Q44-45 | Cervical dysplasia and treatment |  |
| M\_OCCU (Q58) | Mother’s occupation (1st digit of occupation code (STYRK)) [[2]](#endnote-2)  *Mother’s occupation given in question 58 are coded for approximately 70% of the participants. M\_OCCU contains the first digit of the occupation code.* |  |
| F\_OCCU (Q58) | Father’s occupation (1st digit of occupation code (STYRK)) 2  *Father’s occupation given in question 58 are coded for approximately 70% of the participants. F\_OCCU contains the first digit of the occupation code.* |  |

## Questionnaire 2 (Q2) - around week 22 of pregnancy

Projects requesting variables from Questionnaire 2 (Q2) may also request calculated nutrient, contaminants and food intake variables. Please check relevant calculated variables in Section 5.1.

| **Question no. in Version C** | **Variable group *(answers reflect predefined alternatives or frequencies of consumption)*** | **Check relevant** |
| --- | --- | --- |
| 1-2 | Maternal dietary practice with regard to major food groups, and use of organic food |  |
| 3 | Maternal meal pattern |  |
| 4-7 | Intake of bread/crispbread/crackers and butter/margarine |  |
| 8 | Intake of cheese, meat cold cuts, fish and other spreads |  |
| 9 | Intake of eggs |  |
| 10 | Intake of Breakfast cereals and porridge |  |
| 11-12 | Beverage consumption |  |
| 13-14 | Intake of hot meals |  |
| 15 | Food eaten with hot meals |  |
| 16 | Intake of Cooking fat |  |
| 17-18 | Intake of Vegetables |  |
| 19 | Intake of Dressing/trimming with salad |  |
| 20 | Proportion between vegetables and meat/fish in casseroles |  |
| 21-23 | Intake of Fruit (fresh and dried) |  |
| 24-26 | Intake of Desserts, ice cream, cakes, sweets and snacks |  |
| 27 | Intake of Other food items |  |
| 28-29 | Intake of Genetically modified food |  |
| 30 | Intake of Hot meals bought at kiosks, gas stations and fast food restaurants |  |
| 31-37 | Dietary changes due to this pregnancy |  |
| 39-40 | Intake of Supplements |  |

## Questionnaire 3 (Q3) - around week 30 of pregnancy

| **Question no. in Version C/D** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1-7 | Antenatal Check-ups *(information about place, frequency of, and satisfaction with antenatal check-ups, as well as the maternity team)* |  |
| 8-17 | Antenatal Examinations *(routine antenatal examinations, reasons/results/complications of these examinations)* |  |
| 18-25 | Other Information Related to Antenatal Care *(including vaccination, blood pressure, Hb value and weight)* 1 |  |
| 26-27 | Hospitalisation during this Pregnancy |  |
| 28 | Incontinence before and during this Pregnancy |  |
| 29-31 | Bodily Pain |  |
| 32-37 | Use of Anaesthetic, Dental Problems and Treatments |  |
| 38-39 | Tattoo or Body Piercing |  |
| 40-46 | Other Treatments and cervical dysplasia*(including blood transfusion, breast surgery, operation on cervix, and gamma globulin injection)* |  |
| 47-51 | Vaginal Bleeding and uterine contractions after the 13th week of Pregnancy |  |
| 52 | Illness and Health Problems after the 13th week of Pregnancy 1 |  |
| 53 | Fever temperature and medication during Pregnancy 1 |  |
| 54-56 | Other Medication and Involvement of an Accident 1 |  |
| 57-58 & 60 | Intake of Vitamins and Supplements |  |
| 61-68 | Work Situation after the 13th Week of Pregnancy |  |
| 69 & 76-77 | Strains at Work and at home |  |
| 70-71 | Exposure to Radiation at Work |  |
| 72-75 & 78 | Sick Leave after the 13th week of Pregnancy |  |
| 79-83 | Exposure to Radiation and Noise |  |
| 84-86 | Physical Activity |  |
| 87 | Sexual habits |  |
| 88-91 | Trips abroad and Exposure to Animals |  |
| 92-94 | Sleep |  |
| 95-96 | Sauna and Solarium |  |
| 97-102 | Smoking and other forms of nicotine *(maternal and paternal smoking habits, mother’s exposure to passive smoking)* |  |
| 103-104 | Illegal Drugs and other Substances |  |
| 105-107 | Intake of food and nutrition |  |
| 108-110 | Drinking Soda, Coffee, Juice or Milk |  |
| 111-115 | Alcohol consumption and change of drinking habits |  |
| 116 | Civil Status |  |
| 117-119 | Social relations and social support |  |
| 120-121 | Feelings Related to Childbirth |  |
| 122 | Partnership Satisfaction *(10 items, Relationship Satisfaction Scale (RSS))* |  |
| 123 | Depression/Anxiety during Pregnancy *(Short version of (Hopkins) Symptoms Checklist (SCL-8))* |  |
| 124 | Emotion: Enjoyment and Anger *(6 items from Enjoyment and Anger Subscales from DES-IV)* |  |
| 125 | Self-efficacy *(5 items, Short version of General Self-Efficacy Scale (GSE))* |  |
| 126 | Life Satisfaction *(5 items, Satisfaction With Life Scale (SWLS))* |  |
| 127 | Self Esteem *(4 items, Short version of Rosenberg Self-Esteem Scale (RSES))* |  |
| 128 | Adverse Life Events |  |
| 129 | Experiences of Physical and Sexual Assaults |  |
| 130 | Exposure to Illness during Pregnancy |  |
| 131-133 | Family History of Cot Death |  |
| 134-139 | Experience of Loss of a Child |  |

## Questionnaire 4 (Q4) - 6 months

| **Question no. in Version G** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1-14 | About the Child’s Birth *(including child’s gender, weight, length at birth, immaturity birth, way of delivery and mother’s feelings related to childbirth)* |  |
| 15-17 | Nutrition: Child’s beverage Consumption |  |
| 18 | Nutrition: Child’s food Consumption |  |
| 19-20 | Nutrition: Child’s reaction to milk/dairy products |  |
| 21-22 | Nutrition: Child’s vitamins or other dietary supplement [[3]](#endnote-3) |  |
| 23-26 | Child’s vaccination and Growth |  |
| 27-30 | Child’s long-term Illnesses or Health Problems |  |
| 31-35 | Child’s acute Illness/Health Problems, Hospitalisation, and Medication 1 |  |
| 36 | Child’s Development *(11 items, Ages and Stages Questionnaires (ASQ))* |  |
| 37-40 | Child Care *(including day care solution, time spent on baby swimming and outside)* |  |
| 41-44 | Child’s Sleeping Habits |  |
| 45 | Child’s Mood and Temperament *(10 items, Infant Characteristics Questionnaire—6 Months Form (ICQ-6))* |  |
| 46 | Child’s frequency of wake-up during the night |  |
| 47-52 | Mother’s Health after Childbirth |  |
| 53 | Mother’s Illness/Health Problems and Use of Medication 1 |  |
| 54-57 | Mother’s use of Other Medicines 1 and Dietary Supplements 3 |  |
| 58-64 | Back and Pelvis Pain |  |
| 65 | Incontinence |  |
| 66-68 | Ultrasound Scan |  |
| 69 | Weight change before and after birth |  |
| 70-71 | Sick Leave after the 30th Week of Pregnancy |  |
| 72-73 | Financial Situation |  |
| 74-77 | Pets and Electrical Heating Cables |  |
| 78-80 | Mother’s Physical Activity |  |
| 81-82 | Smoking *(maternal and paternal smoking habits, child’s exposure)* |  |
| 83-84 | Intake of Illegal Drugs and other Substances |  |
| 85-86 | Alcohol consumption |  |
| 87-88 | Partnership Satisfaction *(10 items, Relationship Satisfaction Scale (RSS))* |  |
| 89 | Emotion: Enjoyment and Anger *(6 items from Enjoyment and Anger Subscales from DES-IV)* |  |
| 90 | Life Satisfaction *(5 items, Satisfaction With Life Scale (SWLS))* |  |
| 91 | Adverse Life Events |  |
| 92 | Postnatal Depression *(5 items from Edinburgh Postnatal Depression Scale (EPDS))* |  |
| 93 | Self Esteem *(4 items, Short version of the Rosenberg Self-Esteem Scale (RSES))* |  |
| 94 | Depression/Anxiety *(8 items, Short version of (Hopkins) Symptoms Checklist (SCL-8))* |  |

## Questionnaire 5 (Q5) - 18 months

| **Question no. in Version D** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1-3 | Food and Drink: Child’s Beverage Consumption |  |
| 4-6 | Food and Drink: Child’s Food Consumption |  |
| 7-10 | Child’s Food Allergy and Avoidance |  |
| 11-12 | Nutrition: Child’s vitamins or other dietary supplement 3 |  |
| 13-15 | Child’s Vaccination |  |
| 16-18 | Child’s Long-term Illnesses or Health Problems |  |
| 19 | Child’s Acute Illnesses or Health Problems |  |
| 20-21 | Child’s Visits to Doctors or Admission to Hospitals |  |
| 23-25 | Child’s Symptoms and Food Allergies since the Age of 6 months |  |
| 26 & 28-29 | Children’s use of Medication 1 |  |
| 30 | Children’s Length, Weight, and Head Circumferences |  |
| 31-32 | Child’s Development *(13 items from Ages and Stages Questionnaires (ASQ) + questions about unaided walk)* |  |
| 33 | Non-verbal Communication *(4 items from Non-Verbal Communication Checklist (NVCC))* |  |
| 34 | Child’s Temperament *(12 items+1, Short form of the Emotionality, Activity and Shyness Temperament Questionnaire (EAS))* |  |
| 35-36 | Autistic Traits *(ESAT, M-CHAT)* |  |
| 37 | Child Behaviour CheckList *(19 items, CBCL)* |  |
| 38-39 | Child’s Sleep |  |
| 40 | Maternal Concerns about the child’s development |  |
| 41-43 | Child’s Day Care Solution |  |
| 44-45 | Living with the Child’s Father |  |
| 46-50 | Child’s Living Situations |  |
| 51-55 | Child’s Living Environments |  |
| 56-58 | First Tooth and Brushing Teeth |  |
| 59-62 | Time outside Home and in front of TV/Video |  |
| 63 | Civil status |  |
| 64-66 | Pregnancy status, Health and Illness, Admission to hospitals |  |
| 67 | Use of Dietary Supplements |  |
| 68 | Mother’s Weight |  |
| 69-71 | Mother’s Eating Disorders and behaviours |  |
| 72-77 | Bodily Pain |  |
| 78 | Incontinence |  |
| 79-80 | Mother’s use of medicines 1 |  |
| 81-84 | Parental Leave and Sick Leave |  |
| 85-86 | Financial Situations |  |
| 87-88 | Mother’s Physical Activity |  |
| 89-91 | Smoking *(maternal and paternal)* and Drinking Habits *(maternal)* |  |
| 92 | Partnership Satisfaction *(10 items, Relationship Satisfaction Scale (RSS))* |  |
| 93-95 | Social relations and social support |  |
| 96 | Self-efficacy (5 items, Short version of General Self-Efficacy Scale (GSE)) |  |
| 97 | Emotion: Enjoyment and Anger *(6 items from Enjoyment and Anger Subscales from DES-IV)* |  |
| 98 | Self Esteem *(4 items, Short version of the Rosenberg Self-Esteem Scale (RSES))* |  |
| 99 | Depression/Anxiety *(8 items, Short version of (Hopkins) Symptoms Checklist (SCL-8))* |  |
| 100 | Adverse Life Events |  |
| 101-107 | World Health Organization’s Quality of Life Instrument, *Short version (WHOQOL-BREF))* |  |

## Questionnaire 6 (Q6) - 3 years

| **Question no. in Version D** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1 | Child’s Height and Weight |  |
| 2 | First Step Unaided |  |
| 3-4 | Child’s Long-term Illnesses or Health Problems |  |
| 6 & 8 | Severe Life Events *(child’s exposure to or involvement in a serious incident)* |  |
| 9 & 11 | Child’s Acute Illnesses or Health Problems |  |
| 12-13 | Child’s use of Medication 1 |  |
| 14 | Child’s Vaccination |  |
| 16 | Child’s Dietary supplements 3 |  |
| 17 & 21 | Motor and Communication development *(Ages and Stages Questionnaire (ASQ))* |  |
| 18 | Intelligibility/Complexity of 3-year-old Children’s Utterances |  |
| 19 | Non-verbal Communication *(4 items from Non-Verbal Communication Checklist (NVCC))* |  |
| 20 | Social skills *(5 items, Strength and Difficulties Questionnaire (SDQ))* |  |
| 22 | Autistic Traits *(M-CHAT, ESAT, MoBa)* |  |
| 23-25 | Social Communication Questionnaire *(40 items, SCQ)* |  |
| 26 | Child’s Loss of Skills |  |
| 27 | Child’s Temperament *(12 items+2, Short form of the Emotionality, Activity and Shyness Temperament Questionnaire (EAS))* |  |
| 28 | Child Behaviour Checklist *(26 items from CBCL)* |  |
| 29 | Child Behavior and Manner *(20 items from Infant-Toddler Social and Emotional Assessment (ITSEA))* |  |
| 30 | Child Feeding Questionnaire *(CFQ)* |  |
| 31 | Maternal Concerns about the child’s development |  |
| 32-33 | Living with Father |  |
| 34-35 | Brushing Teeth |  |
| 36 | Child’s Exposure to Passive Smoke |  |
| 37-38 | Time outside Home and in front of TV/Video |  |
| 39-40 | Day Care Solution |  |
| 41-43 | Child’s Frequency of Intake |  |
| 44 | Mother’s Civil Status |  |
| 45-48 | Work *(mother’s work situations, working hours, and absence from work)* |  |
| 49-51 | Social relations and social support |  |
| 52 | Life Time History of Major Depression *(LTH of MD)* |  |
| 53-58 | Mother’s Health and Health Problems |  |
| 59-62 | Mother’s Intake of Nicotine and Alcohol |  |
| 63 | Mother’s Experiences of Physical or Sexual Assaults |  |
| 64-66 | Mother’s Eating Disorders and behaviours |  |
| 67 | Mother’s Height and Weight |  |
| 68 | Adult ADHD *(6 items, Short form of the ASRS (ASRS screener))* |  |
| 69 | Partnership Satisfaction *(5 items, Relationship Satisfaction Scale (RSS))* |  |
| 70 | Depression/Anxiety *(8 items, Short version of (Hopkins) Symptoms Checklist (SCL-8))* |  |
| 71 | Adverse Life Events |  |
| 72 | Emotion: Enjoyment and Anger *(6 items from Enjoyment and Anger Subscales from DES-IV)* |  |
| 73 | Life Satisfaction *(5 items, Satisfaction With Life Scale (SWLS))* |  |
| 74 | Self Esteem *(4 items, Short version of the Rosenberg Self-Esteem Scale (RSES))* |  |
| 75 | Parental Locus of Control *(PLOC)* |  |

## Questionnaire 5 years (Q5Y)

| **Version B** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1 | Child’s Height and Weight |  |
| 2-4 | Family Household |  |
| 5 | Child’s Day Care Solution |  |
| 6-11 | Attending the Child Care Centre |  |
| 12-13 | Children’s Well-being in the Day Care Centre and Parental Satisfaction with it |  |
| 14 -16 | Time in front of TV and PC Screen |  |
| 17 -18 | Child’s Illnesses or Health Problems |  |
| 19 | Child’s Developmental Milestones |  |
| 20-22 | Child’s History of Developmental Problems |  |
| 23 | Family History of Language, Reading and Writing Problems |  |
| 24 | The Child’s Pronunciation |  |
| 25 | Child’s Food Supplements |  |
| 26 | Child’s Breakfast |  |
| 27 | Questionnaire of Eating and Weight Patterns-Parent Report *(3 items from QEWP-P)* |  |
| 28 & 36 | Child’s Development *(19 items from Ages and Stages Questionnaires (ASQ))* |  |
| 29-30 | Mother Tongue, Language Backgrounds, and Home Language Use |  |
| 31 | Checklist of 20 Statements about Language-Related Difficulties *(Språk20)* |  |
| 32 | Children’s Communication Checklist-2 *( 6 items short scale (CCC-S) + 7 items)* |  |
| 33 | Preschool Activities |  |
| 34 | Preschool Play Behaviour Scale *(20 items, PPBS)* |  |
| 35 | Childhood Asperger Syndrome Test *(20 items from CAST)* and Conners Parent Rating Scale-Revised, Short Form *(12 items from CPRS-R (S))* |  |
| 37 | Child’s Temperament *(12 items, Short form of the Emotionality, Activity and Shyness Temperament Questionnaire (EAS))* |  |
| 38 | Speech and Language Assessment Scale *(13 items from SLAS)* |  |
| 39 | Child Behaviour Checklist *(27 items from CBCL)* |  |
| 40-41 | Child’s Bedtime Habits |  |
| 42 | Maternal Concerns about the child’s development |  |
| 43-44 | Mother’s Weight and Pregnancy Status |  |
| 45-47 | Mother’s Intake of Nicotine and Alcohol |  |
| 48-50 | Mother’s Health and Health Problems |  |
| 51 | Depression/Anxiety *(8 items, Short version of (Hopkins) Symptoms Checklist (SCL-8))* |  |
| 52 | Partnership Satisfaction *(5 items from Relationship Satisfaction Scale (RSS))* |  |
| 53 | Parenting Style *(Ver. A: APQ, Ver. B: PAQ-R)* |  |
| 54 | Life Satisfaction *(5 items+1, Satisfaction With Life Scale (SWLS))* |  |
| 55-56 | Adverse Life Events |  |
| 57 | The International Personality Item Pool (IPIP) Big-Five Factor Markers |  |
| 58 | History of Childcare Attendance |  |
| Ver. A Q5 | Child’s Exposure to Passive Smoke |  |
| Ver. A Q35 | Child’s language skills |  |

## Questionnaire 7 years (Q7Y)

| **Question no. in Version C** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1 | Child’s Height and Weight |  |
| 2-4 | Child’s Physical activities |  |
| 5 | Child’s Time in front of screen |  |
| 6 | Child’s Absence from school |  |
| 7-8 | Indoor swimming *(frequency and the time child spend on indoor swimming pool)* |  |
| 9-10 | Child’s Means of transportation to school |  |
| 11-13 | Time the child lives with the father/mother |  |
| 14-15 | Child’s Sleeping habits |  |
| 16 | Damp/mould in the child’s home |  |
| 17-18 | Smoking *(maternal and paternal smoking habits)* |  |
| 19-22 | Sources of heating and the use of candles |  |
| 23-24 | Child’s contact with pets/farm animals |  |
| 25-26 | Child’s History of illnesses, conditions or health problems |  |
| 27 | Child’s Asthma 1 |  |
| 28 | Child’s Illnesses/health problems of acute nature |  |
| 29 | Child’s use of dietary supplements 3 |  |
| 30 | Child’s consumption of Bread/crisp bread |  |
| 31 | Child’s consumption of Food items |  |
| 32 | Child’s Beverage consumption |  |
| 33-37 | The child’s dental health |  |
| 38 | Mother’s History of illnesses/health problems |  |
| 39-40 | Mother’s Food allergy |  |

## Questionnaire 8 years (Q8Y)

| **Question no. in Version C** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1-5 | Child’s Friends and Leisure Time |  |
| 6 | Bullying and Physical Abuse |  |
| 7 | Child’s Height and Weight |  |
| 8-9 | Child’s Health Problems |  |
| 10 | Short Mood and Feelings Questionnaire *(13 items, Short form of SMFQ)* |  |
| 11 | Short Norwegian Hierarchical Personality Inventory for Children *(NHiPIC-30)* |  |
| 12-13 | Parent/Teacher Rating Scale for Disruptive Behaviour Disorders *(34 items from RS-DBD)* |  |
| 14 | Screen for Child Anxiety Related Disorders *(5 items, Short version of SCARED)* |  |
| 15-17 | Social Communication Questionnaire *(40 items, SCQ)* |  |
| 18 | The Children’s Eating Behaviour Questionnaire *(18 items from CEBQ)* |  |
| 19 | Questionnaire of Eating and Weight Patterns-Parent Report *(3 items from QEWP-P)* |  |
| 20 | Children’s Communication Checklist-2 *(13-item short scale (CCC-S) + 3 items)* |  |
| 21 | Checklist of 20 Statements about Language-Related Difficulties *(Språk20)* |  |
| 22-24 | School and after School Program |  |
| 25 | School Assessment |  |
| 26 | Special Education |  |
| 27 | Homework |  |
| 28 | Reading and Writing Skills |  |
| 29 | The Child’s Pronunciation |  |
| 30-31 | Home Reading and Self-reading |  |
| 32 | Cooperation School - Home |  |
| 33 | Sleeping at Night *(time the child spent sleeping per night on weekdays)* |  |
| 34 | Difficulties, Impairment, and Impact *(questions based on The Strengths and Difficulties Questionnaires (SDQ))* |  |
| 35 | Work *(Mother’s current employment status)* |  |
| 36 | Mother’s Education |  |
| 37-39 | Family Household |  |
| 40 | Mother’s Physical Activity |  |
| 41 | Mother’s Height and Weight |  |
| 42-45 | Mother’s Eating Disorders and behaviours |  |
| 46-47 | Pregnancy status and Birth |  |
| 48 | Mother’s Health Problems/Illnesses |  |
| 49 | Social Phobia *(3 items, Mini Social Phobia Inventory (miniSPIN))* |  |
| 50 | Life Satisfaction *(5 items, Satisfaction With Life Scale (SWLS))* |  |
| 51 | The Autonomic Nervous System Questionnaire *(3 items, ANS)* |  |
| 52 | Depression/Anxiety *(8 items, Short version of (Hopkins) Symptoms Checklist (SCL-8))* |  |
| 53-54 | Social relations and social support |  |
| 55 | Short Form of the Alabama Parenting Questionnaire *(9 items, APQ-9)* |  |
| 56-57 | Smoking *(maternal and paternal smoking habits)* |  |
| 58-60 | Alcohol Use *(Alcohol Use Disorders Identification Test (AUDIT))* |  |

## Dietary Questionnaire 13 (Q-youth diet) – 13-15 years

Projects requesting variables from dietary questionnaire 13 (Q-youth diet) may also request calculated nutrient and food intake variables. Please check relevant calculated variables in Section 5.2.

| **Question no. in Version A** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 2 | Birth year |  |
| 3 | Gender |  |
| 4-34 | Beverage consumption |  |
| 35-39 | Alcoholic drinks |  |
| 40-44 | Intake of yoghurt – dairy products |  |
| 45-49 | Intake of breakfast cereals and porridge |  |
| 50-57 | Intake of bread/crisp bread and butter/margarine/mayonnaise |  |
| 58-75 | Intake of cheese, meat cold cuts, fish and other spreads |  |
| 76-102 | Main dish for dinner |  |
| 104 – 117 | Side dish for dinner |  |
| 119 - 131 | Intake of fruit (fresh and dried) |  |
| 132 - 144 | Intake of vegetables |  |
| 146-151 | Intake of organic food and drinks |  |
| 152-173 | Intake of desserts, ice cream, cakes, sweets and snacks |  |
| 174 – 180 | Meal pattern |  |
| 181 - 188 | Intake of supplements |  |
| 190 | Participate in cooking at home |  |
| 191 – 192 & 194 | Food allergies |  |
| 197 - 198 | Sleeping habits |  |
| 199 - 208 | Physical activity and after school activities |  |
| 209 - 212 | Time in front of screen |  |
| 213 - 214 | Height and weight |  |

## MoBa Youth Questionnaire 14 years – Child (Q14C)

| Question no. in Version C | Variable group | Check relevant |
| --- | --- | --- |
| 1-6 | Child's leisure time and physical activity |  |
| 7-8 | Friendship and relationship/social competence (*5+1 items, adapted from Self-Perception Profile for Adolescents, Scale for Social Competence*) |  |
| 9 | Social skills (*5 items, Strengths and Difficulties Questionnaire (SDQ), Prosocial Subscale*) |  |
| 10 | Life satisfaction (*5 items, Satisfaction with Life Scale (SWLS)*) |  |
| 11 | Adolescent depression (*13 items, Short Mood and Feelings Questionnaire (SMFQ)*) |  |
| 12 | Depression/Anxiety (*10 items, The Hopkins Symptoms Checklist (SCL-10)*) |  |
| 13 | Social phobia (*3 items, Mini Social Phobia Inventory (miniSPIN)*) |  |
| 14 | Being bullied (*3+1 items, Scale concerning being bullied (BB)*) |  |
| 15.1 | Relations with parents (*4 items, Parental Relations Self-Concept Scale from the Self-Description Questionnaire II-Short (SDQII-S)*) |  |
| 15.2 | Parent-child conflict (*4 items, the Parent-Child Conflict Scale; the Parental Environment Questionnaire*) |  |
| 16-17 | Eating disorder (*8+1 items, the Eating Disorder Examination Questionnaire (EDE-Q)*) |  |
| 18 | Physical pain |  |
| 19 | Non-prescriptive analgesics |  |
| 20 | Headaches |  |
| 21-29 | Child's sleep and sleep problems (*Karolinska Sleep Questionnaire, Bergen Insomnia Scale, standard clinical sleep diary*) |  |
| 30 | School belonging (*5 items, Students’ sense of school belonging scale*) |  |
| 31 | Academic Engagement *(7 items, Elementary Social Behaviour Assessment – Academic Engagement Subscale)* |  |
| 32-34 | School performance |  |
| 35 | Disruptive behaviour disorders (*8 items, Parent/Teacher Rating Scale for Disruptive Behaviour Disorders (RS-DBD), Conduct Disorder*) |  |
| 36 | The International Personality Item Pool (IPIP) Big-Five factor markers (*20 items, mini-IPIP*) |  |
| 37 | Youth psychopathic traits (*11 items, Youth Psychopathic Traits Inventory - Short child version (YPI-CV)*) |  |
| 38.1 | Screen for Child Anxiety Related Disorders (*5 items, SCARED*) |  |
| 38.2 | Self-disturbances and psychotic tendencies (*3 items, Examination of Anomalous Self-Experience (EASE)*) |  |
| 39 | Self-esteem (*4 items, Short Version of Rosenberg Self-Esteem Scale (RSES)*) |  |
| 40 | Emotion: Enjoyment (*3 items, Differential Emotional Scale (DES) IV, Enjoyment Subscale*) |  |
| 41 | Life events |  |
| 42-43 | Height and weight |  |
| 44-45 | Pubertal development (*11 items, Self-rating Scale for Pubertal Development (PDS)*) |  |
| 46-48 | Gender identity |  |
| 49-51 | Smoking and use of nicotine |  |
| 52-53 | Child’s experience with alcohol and drugs |  |
| 54-69 | Positive psychotic-like symptoms (*16 items, Community Assessment of Psychic Experiences (CAPE)*) |  |
| 70.1 | Perceived Stress Scale (*4 items, PSS-4*) |  |
| 70.2 | Short Grit Scale (*8 items, Grit-S*) |  |
| Version A Q80-93 | School functioning (*14 items, The School Functioning Scale from the Nord-Trøndelag Health Study (HUNT)*) |  |
| Version A Q94-97 | School bonding |  |

## MoBa Youth Questionnaire 14 years – Mother (Q14M)

| **Question no. in Version C** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1 | Child's grade |  |
| 2-3 | Child's physical activity and leisure time |  |
| 4 | Child's friends |  |
| 5-6 | Child's academic performance and special needs education |  |
| 7 | Child's sleeping habits |  |
| 8-23 | Child's illness or health problems |  |
| 24-31 | Child's past and present developmental problems |  |
| 32 | Disruptive behaviour disorders (*26 items, Parent/Teacher Rating Scale for Disruptive Behaviour Disorders (RS-DBD)*) |  |
| 33 | Adolescent depression (*6 items, the Short Mood and Feelings Questionnaire (SMFQ)*) |  |
| 34 | Screen for Child Anxiety Related Disorders (*5 items, SCARED*) |  |
| 35 | The Child-Parent Relationship Scale (*3 items, CPRS closeness scale*) |  |
| 36 | Mother’s conflict with the child |  |
| 37 | Strengths and Difficulties Questionnaire (*5 items, SDQ Prosocial Subscale*) |  |
| 38 | Mother's employment status and work environment (*4+1 items, Demand-Control-Support Questionnaire (DCSQ)*) |  |
| 39-42.1 | The family household |  |
| 42.2-42.56 | Children's year of birth |  |
| 43 | Indoor environment and pets |  |
| 44-45 | Phsyical activity |  |
| 46-47 | Mother's height and weight |  |
| 48 | Menstruation |  |
| 49-51 | Mother's weight and eating disorder (*8 items, the Eating Disorder Examination Questionnaire (EDE-Q), Restraint and Shape concern subscales*) |  |
| 52 | Cosmetic surgery |  |
| 53-54 | Pregnancy status and birth |  |
| 55-63 | Mother's sleep and sleep problems (*Karolinska Sleep Questionnaire, Bergen Insomnia Scale, standard clinical sleep diary*) |  |
| 64 | Social phobia (*3 items, Mini Social Phobia Inventory (miniSPN)*) |  |
| 65 | The Satisfaction with Life Scale (*5 items, SWLS*) |  |
| 66 | Emotion: enjoyment and anger (*6 items, Differential Emotional Scale (DES), Enjoyment and Anger Subscales*) |  |
| 67-68 | Panic/anxiety disorder (*2 items, the Autonomic Nervous System Questionnaire*) |  |
| 69 | Depression/anxiety (*14 items, the Hopkins Symptoms Checklist-25*) |  |
| 70-71 | Social relations and social support |  |
| 72 | Relationship Satisfaction Scale (*5 items, RSS*) |  |
| 73-75 | Smoking and use of nicotine |  |
| 76-79 | Mother's alcohol use (*10 items, Alcohol Use Disorders Identification Test (AUDIT)*) |  |
| 80-81 | Life events |  |
| 82-96 | Maternal health problems |  |
| 97-98 | Non-prescriptive medications and treatment |  |

## MoBa Ung Questionnaire 1 – 16- to 17-year-olds

|  |  |  |
| --- | --- | --- |
| **Question no. in Version C** | **Variable group** | **Check relevant** |
| 1-5 | Life Satisfaction (*5 items, Satisfaction with Life Scale (SWLS)*) |  |
| 6-8 | Enjoyment (*3 items, Differential Emotional Scale (DES), Enjoyment Subscale*) |  |
| 9-18 | Depression/Anxiety (*10 items, Hopkins Symptom Checklist-25 (HSCL-25)*) |  |
| 19-21 | Social Phobia (*3 items, Mini Social Phobia Inventory (miniSPIN)*) |  |
| 22-24 | Loneliness (*3 items, the Three-Item Loneliness Scale (T-ILS)*) |  |
| 25-30 | Dispruptive Behaviour (Conduct Disorder) (*6 items, The Rating Scale for Disruptive Behaviour Disorders (RS-DbD; Conudct Disorder)*) |  |
| 31 | Quality of Life (*the Cantril Self-Anchoring Striving Scale*) |  |

## MoBa Ung Questionnaire 2 – 16- to 17-year-olds

|  |  |  |
| --- | --- | --- |
| **Question no. in Version C** | **Variable group** | **Check relevant** |
| 1-4 | Gender identity |  |
| 5-7 | Sexual orientation and health |  |
| 8 | Experience with pornography |  |
| 9 | Sexual harassment (*7 items, covering 3 forms (verbal, physical and nonverbal)*) |  |
| 10-12 | Bullying (*6 items, Olweus Bully/Victim Questionnaire (BVQ)*) |  |
| 13-16 | History of suicidal ideation, suicide attempts and self-harm (*3 items from the Adult Psychiatric Morbidity Survey (APMS), 1 item from the Child and Adolescent Self-harm in Europe Study (CASE*)) |  |
| 17-22 | Depression/Anxiety (*6 items, the Hopkins Symptom Checklist-25 (HSCL-25; SCL-5 + 1 item)*) |  |
| 23 | Quality of Life (*the Cantril Self-Anchoring Striving Scale*) |  |

## MoBa Ung Questionnaire 3 – 16- to 17-year-olds

|  |  |  |
| --- | --- | --- |
| **Question no. in Version C** | **Variable group** | **Check relevant** |
| 1-6 | Friendship (*6 items, adapted from the* Self-perception Profile for Adolescents, Scale for Social Competence) |  |
| 7-7.7 | School Attendance and Sense of Belonging (*3+5 items, selected from* the Norwegian PIRLS 2016 questionnaire) |  |
| 7.8-7.14 | Academic Engagement (7 items, Elementary Social Behaviour Assessment, academic engagement scale) |  |
| 7.15 | School Performance (*1 item, MoBa specific single questions*) |  |
| 7.16 | Special Needs Education (*4 items, MoBa specific single questions*) |  |
| 8-11 | Relations with Parents (*4 items,* The Self-Description Questionnaire II-Short (SDQII-S)) |  |
| 12-15 | Parent-child conflict (4 items, the Parent-Child Conflict Scale, the Parental Environment Questionnaire) |  |
| 16-20.2 | Physcial activity and exercise (*11 items, based on* the YoungHUNT4 study) |  |
| 21-32 | Activities in Leisure Time (*12 items, MoBa specific single questions*) |  |
| 33-44 | Social Media Use (*12 items, from* Shot 2018 (Students' Health and Wellbeing Study)) |  |
| 45 | Quality of Life (*1 item,* the Cantril Self-Anchoring Striving Scale) |  |

## MoBa 18-Year Questionnaire

|  |  |  |
| --- | --- | --- |
| **Question no. in Version B** | **Variable group** | **Check relevant** |
| 1-2 | Education and employment status |  |
| 3 | The current household |  |
| 4-6 | Gender identity, puberty and sexual orientation |  |
| 7 | Relationship status |  |
| 8 | Friendship |  |
| 9 | Right/left-handedness |  |
| 10-11 | Height and weight |  |
| 12-13 | Food intake and dietary quality (1 + 1 item, Likert scale for self-reported health) |  |
| 14 | Physical activity |  |
| 15 | Non-prescription painkiller use |  |
| 16-20 | Sleep problems (5 items, adapted from Karolinska Sleep Questionnaire) |  |
| 21-25 | Anxiety and depression (5 items, adapted from the Hopkins Symptoms Checklist (SCL-5)) |  |
| 26-28 | Social phobia (3 items, Mini Social Inventory (miniSPIN)) |  |
| 29 | Quality of Life (1 item, the Cantril Self-Anchoring Striving Scale) |  |
| 30-35 | Restrictions during the Covid-19 pandemic |  |
| 36 | Coronavirus infections |  |
| 37-39 | Interests of the participants (future topics) |  |

## 19+-Years Questionnaire

|  |  |  |
| --- | --- | --- |
| **Question no. in Version A** | **Variable group** | **Check relevant** |
| 1-5 | Current activities and income |  |
| 6-7 | Secondary and higher education |  |
| 8-10 | Aspirations |  |
| 11 | Career choice |  |
| 12 | Global uncertainty |  |
| 13-14 | Height and weight |  |

## Father's questionnaire (QF) - around week 17 of pregnancy

| **Question no. in Version D/E** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 2 | Father’s Marital Status |  |
| 3-9 | Father’s Height and Weight |  |
| 10 | Father’s Education Level |  |
| 11 | Father’s Work Situation |  |
| 14-15 | Father’s Income and work hours |  |
| 16-17 | Father’s Sick Leave |  |
| 18-19 | Social Benefits *(whether the father is receiving social benefits)* |  |
| 20 | Father’s Exposure to Harmful Substances |  |
| 21-29 | Father’s Exposure to Radiation |  |
| 30 | Father’s Previous and Current Illnesses and Health Problems |  |
| 31-34 | Birth Defect and Father’s use of Medicines 1 |  |
| 35-36 | X-rays of Father before partner became pregnant |  |
| 37-38 | Number of Children the father has |  |
| 39-41 | Father’s Intake of Bread/Crispbread/Biscuits |  |
| 42 | Father’s beverage consumption |  |
| 43 | Father’s food intake through Dinner |  |
| 44 | Father’s Intake of Vegetables/Fruits |  |
| 45-46 | Father’s Eating Patterns |  |
| 47-48 | Father’s Intake of Dietary Supplement |  |
| 49-56 | Smoking and chewing tobacco *(father’s smoking habits)* |  |
| 57 | Father’s history of Illegal drug use |  |
| 58-61 | Father’s alcohol use – Intake |  |
| 62-64 | Father’s Physical Activities |  |
| 65 | Father’s use of Hormone Substances |  |
| 66 | Symptoms of anxiety and depression *(8 items, Short version of (Hopkins) Symptoms Checklist (SCL-8))* |  |
| 67-68 | Life Time History of Major Depression *(LTH of MD)* |  |
| 69 | Self Esteem *(4 items, Short version of the Rosenberg Self-Esteem Scale (RSES))* |  |
| 70 | The International Personality Item Pool (IPIP) Big-Five Factor Markers |  |
| 71 | Life Satisfaction *(5 items, Satisfaction With Life Scale (SWLS))* |  |
| 72 | Adult ADHD *(6 items, Short form of the ASRS (ASRS screener))* |  |
| 73 | Adverse Life Events |  |
| 74 | Partnership Satisfaction *(5 items from Relationship Satisfaction Scale (RSS))* |  |
| 75-77 | Social relations and social support |  |
| 78 | Emotion: Enjoyment and Anger *(6 items from Enjoyment and Anger Subscales from DES-IV)* |  |

## Father's questionnaire no. 2 (QF2) – sent to fathers 2015-2016

| **Question no. in Version A** | **Variable group** | **Check relevant** |
| --- | --- | --- |
| 1 | Father’s subjective health (*in categories*) |  |
| 2 | Father’s Current Illnesses and Health Problems |  |
| 3 | Family medical history |  |
| 4 | Hospitalization the past year |  |
| 5-7 | Father’s Height and Weight |  |
| 8-12 | Father’s experience with pain |  |
| 13 | Father’s use of painkillers |  |
| 14 | Father’s food intake |  |
| 15 | Father’s beverage consumption |  |
| 16-17 | Father’s eating habits |  |
| 18 | Father’s Intake of Dietary Supplement |  |
| 19-20 | Father’s exposure to smoking in childhood |  |
| 21-28 | Smoking and chewing tobacco *(father’s smoking habits)* |  |
| 29-30 | Father’s alcohol use – Intake (*Alcohol Use Disorders Identification Test (AUDIT))* |  |
| 31-38 | Father’s alcohol use – Drinking habits (*Alcohol Use Disorders Identification Test (AUDIT))* |  |
| 39 | Father’s Cannabis use |  |
| 40-41 | Father’s Physical Activities |  |
| 42-50 | Father’s Sunbathing habits |  |
| 51 | Life Satisfaction *(5 items, Satisfaction With Life Scale (SWLS))* |  |
| 52 | Symptoms of anxiety and depression *(12 items, Short version of (Hopkins) Symptoms Checklist (SCL-12))* |  |
| 53 | Social anxiety disorder (*Mini Social Phobia Inventory (MiniSpin))* |  |
| 54-55 | Suicidal thoughts and attempts |  |
| 56 | Symptoms of psychosis (*CAPE-9*) |  |
| 57 | Adverse Life Events |  |
| 58 | Father’s sleep habits (*Karolinska Sleep Questionnaire*) |  |
| 59-60 | Social Support |  |
| 61 | Partnership Satisfaction *(5 items from Relationship Satisfaction Scale (RSS))* |  |
| 62 | Father’s Marital Status |  |
| 63-64 | Household |  |
| 65 | Father’s Education Level |  |
| 66 & 70 | Father’s Income and work hours |  |
| 67 | Father’s Work Situation |  |
| 71 | Father’s Strains at Work |  |
| 72-73 | Father’s Sick Leave |  |
| 74-75 | Contact with the child’s mother |  |
| 76 | Conflicts with the child’s mother |  |
| 77-80 | Child-Parent relationship (*Child-Parent relationship short scale*) |  |

## Mother’s 45-year Questionnaire

|  |  |  |
| --- | --- | --- |
| **Question no. in Version B** | **Variable group** | **Check relevant** |
| 1-4 | Number of biological, adopted and stepchildren |  |
| 5-11 | Female fertility and involuntary childlessness |  |
| 12 | Mother's weight |  |
| 13 | Mother's smoking habits |  |
| 14 | Alcohol consumption |  |
| 15-21 | Contraception and transition to menopause |  |

## Father’s 45-year Questionnaire

|  |  |  |
| --- | --- | --- |
| **Question no. in Version B** | **Variable group** | **Check relevant** |
| 1-4 | Number of biological, adopted and stepchildren |  |
| 5-8 | Male fertility and involuntary childlessness |  |
| 9 | Father's weight |  |
| 10 | Father's smoking habits |  |
| 11 | Alcohol consumption |  |

## Other questionnaires in MoBa

If you apply for data from one of questionnaires in the table below, MoBa will send you the relevant variable form to be filled in and returned to MoBa. The MoBa questionnaires and instrument documentation are available at the MoBa [website](https://www.fhi.no/en/studies/moba/for-forskere-artikler/questionnaires-from-moba/).

|  |
| --- |
| 3.2. Select required questionnaires |
| Questionnaire about influenza and vaccine 2010 (MoBaFlu)  Questionnaire Mother  Questionnaire Child |

# Data based on free text and data collected as part of sub-studies in MoBa

In this section you will find information on how to apply for data from coded variables based on free text and data obtained from sub-studies in MoBa.

Coded variables and data from sub-studies are not part of standard data delivery from MoBa, and may be related to additional cost for facilitating data. Se [MoBa price list](https://www.fhi.no/en/publ/forms/price-list-for-moba/) for information on cost.

## Coded variables

Data from coded variables based on free text are available upon special request for medication from questionnaire Q1, Q3, Q4, Q5, Q6, Q7Y and QF. Information about the level of code needed and the specific codes relevant for the projects aim should be given in table 4.1 (See example of a data request in the table below).

See [fhi.no](https://www.fhi.no/en/studies/moba/for-forskere-artikler/moba-research-data-files/) for more information on data based on free text in MoBa.

*About coded variables for medication*

The table below gives an overview of the questionnaires where medication is coded for mother, father and child.

|  |  |
| --- | --- |
| *Person* | *Questionnaire* |
| Mother | Q1, Q3, Q4, Q5 |
| Father | QF |
| Child | Q4, Q5, Q6, Q7Y |

*Example of a data request:*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Type* | *Questionnaire* | *Person* | *Code level* | *Codes(s)* | *Codes included in data delivery* |
| Medication (ATC)\* | Q1, Q3 | Mother | 4 | ATC: M01A, N02  MoBa specific codes: E000012 | *M01A, N02A, N02B, N02C, E000012* |
| Medication (ATC)\* | Q5, Q6 | Child | 7 | ATC: M01AE, N02BE  MoBa specific codes: E000012 | M01AE01, M01AE02, M01AE03, M01AE52*,* N02BE01, N02BE51*, E000012* |

\**See* [*https://mobawiki.fhi.no/mobawiki/index.php/Coding\_of\_medication\_(ATC-codes)*](https://mobawiki.fhi.no/mobawiki/index.php/Coding_of_medication_(ATC-codes)) *for information on standard classifications used when coding medication in MoBa.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 4.1 Fill in information for all relevant coded variables | | | | |
| Type | Questionnaire | Person | Code level | Codes(s) |
|  |  |  |  |  |

## Sub studies

If you apply for data from one of the sub studies in MoBa, MoBa will send you the relevant variable form to be filled in and returned to MoBa. For access to data from a sub study in MoBa, MoBa may need to obtain approval from the selected sub study. This could prolong the processing time of the application.

|  |
| --- |
| 4.2 Select required sub studies |
| The language and Learning Study (SOL):  Kindergarten  School 8 years  School 11 years  The Milk Tooth Bank |

# Calculated variables

## Calculated variables from Questionnaire 2 (Q2)

Projects requesting variables from Questionnaire 2 (Q2) may also request the following calculated variables required to answer the project’s aim:

### 5.1.1 Nutrient intakes calculated based on self-reported food intake

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| VANN\_G | Water (g) |  |
| KJ | Energy, kilojoule (kJ) |  |
| KCAL | Energy, kilogramcalorie (kcal) |  |
| TOT\_PROT | Total protein |  |
| TOT\_FETT | Total fat (g) |  |
| METTET | Saturated fatty acids (g) |  |
| TOT\_TRANS | Sum trans fatty acids (g) |  |
| ENUMETTET | Monounsaturated fatty acids (g) |  |
| FLERUMETTET | Polyunsaturated fatty acids (g) |  |
| KOLESTEROL | Cholesterol (mg) |  |
| TOT\_KARB | Total carbohydrates (g) |  |
| STIVELSE | Starch (g) |  |
| FIBER | Dietary fiber (g) |  |
| MONO\_DISAKK | Mono- and disaccharides (g) |  |
| SUKKER | Added sugar (g) |  |
| ALKOHOL | Alcohol (g) |  |
| RETINOL | Retinol (µg) |  |
| BETAKAROTEN | Beta carotene (µg) |  |
| RET\_EKVIV | Total Retinol (µg) (1 beta c. = 1/6 retinol) |  |
| VIT\_D | Vitamin D (µg) |  |
| VIT\_E | Vitamin E (mg) |  |
| THIAMIN | Thiamin (mg) |  |
| RIBOFLAVIN | Riboflavin (mg) |  |
| NIACIN | Niacin (mg) |  |
| NIACIN\_EQ | Niacin equivalents (mg) |  |
| VIT\_B6 | Pyridoxine (mg) |  |
| FOLAT | Folate (µg) |  |
| VIT\_B12 | Vitamin B12 (µg) |  |
| ASKORBIN | Vitamin C (mg) |  |
| KALSIUM | Calcium (mg) |  |
| JERN | Iron (mg) |  |
| NATRIUM | Sodium (mg) |  |
| KALIUM | Potassium (mg) |  |
| MAGNESIUM | Magnesium (mg) |  |
| SINK | Zink (mg) |  |
| SELEN | Selenium (µg) |  |
| KOPPER | Copper (mg) |  |
| FOSFOR | Phosphorus (mg) |  |
| All above | All above |  |

### 5.1.2 Other nutrient intakes calculated based on self-reported food intake

|  |  |  |
| --- | --- | --- |
| **Variable** | **Description** | **Check relevant** |
| c20\_4n\_6 | Arachidonic acid (AA) (g/day) |  |
| c20\_5n\_3 | Eicosapentaenoic acid (EPA) (g/day) |  |
| c22\_5n\_3 | Docosapentaenoic acid (DPA) (g/day) |  |
| c22\_6n\_3 | Docosahexaenoic acid c22\_6n\_3 (DHA) (g/day) |  |
| sum\_n\_3food | Sum long chain n-3 (g/day) |  |
| jod | Iodine (ug/day) |  |

### 5.1.3 Nutrient intakes calculated from self-reported dietary supplements use

|  |  |  |
| --- | --- | --- |
| **Variable** | **Description** | **Check relevant** |
| s\_b1 | B1 (thiamine) (mg/d) |  |
| s\_b2 | B2 (riboflavin) (mg/d) |  |
| s\_niacin | B3 (niacin) (mg/d) |  |
| s\_b6 | B6 (pyridoxine) (mg/d) |  |
| s\_biotin | B7 (biotin) (mcg/d) |  |
| s\_b12 | B12 (cobalamins) (mcg/d) |  |
| s\_folat | Folic acid (mcg/d) |  |
| s\_beta\_karoten | Beta-carotene (mcg/d) |  |
| s\_retinol | Retinol (mcg/d) |  |
| s\_vitamin\_a | Total vitamin A (retinol + retinol eqvivalents) (mcg/d) |  |
| s\_vitamin\_c | Vitamin C (ascorbic acid) (mg/d) |  |
| s\_vitamin\_d | Vitamin D (D2/D3) (mcg/d) |  |
| s\_vitamin\_e | Vitamin E (tocopherols) (mg/d) |  |
| s\_epa | Eicosapentaenoic acid (20:5n-3) (g/d) |  |
| s\_dha | Docosahexaenoic acid (22:6n-3) (g/d) |  |
| s\_dpa | Docosapentaenoic acid (22:5n-3) (g/d) |  |
| s\_alfa\_linolensyre | Alpha-linolenic acid (g/d) |  |
| s\_cla | Conjugated linoleic acid (mg/d) |  |
| s\_gla | Gamma linolenic acid (mg/d) |  |
| s\_betaine | Betaine (mg/d) |  |
| s\_kolin | Choline (mg/d) |  |
| s\_hemjern | Haeme iron (mg/d) |  |
| s\_jern\_totalt | Total iron (mg/d) |  |
| s\_fosfor | Phosphorus (mg/d) |  |
| s\_jod | Iodine (mcg/d) |  |
| s\_kalium | Potassium (mg/d) |  |
| s\_kalsium | Calcium (mg/d) |  |
| s\_kobber | Copper (mg/d) |  |
| s\_krom | Chromium (mcg/d) |  |
| s\_magnesium | Magnesium (mg/d) |  |
| s\_mangan | Manganese (mg/d) |  |
| s\_natrium | Sodium (mg/d) |  |
| s\_selen | Selenium (mcg/d) |  |
| s\_sink | Zink (mg/d) |  |
| s\_fiber | Dietary fibre (g/d) |  |
| s\_protein | Protein (g/d) |  |
| All above |  |  |

### 5.1.4 Caffeine intake from self-reported foods and dietary supplements

|  |  |  |
| --- | --- | --- |
| **Variable** | **Description** | **Check relevant** |
| f\_caff\_tot | Total caffeine intake from foods (mg/d) |  |
| f\_caff\_gr1 – f\_caff\_gr12 | Caffeine intake (mg/d) from 12 defined food groups:  *sandwich spread containing cocoa, milk containing cocoa, caffeinated soft drink (artificial sweetened), caffeinated soft drink (sugar sweetened), coffee, decaffeinated coffee, black tea, dessert containing cocoa, cake containing cocoa, chocolate, sweets containing cocoa and cappuccino and cafe latte (coffee with milk)* |  |
| s\_koffein\_v9 | Caffeine intake from supplements (mg/d) |  |
| All above |  |  |

### 5.1.5 Other calculated variables from Q2

|  |
| --- |
| If other variables are needed, please describe here**.**  Examples:   * calculated contaminants *(e.g. cadmium, mercury, PFASs, PCBs and dioxins, acrylamide, benzo(a)pyrene)\** * the calculated food intakes in gram/day of specified foods and food groups * the contribution to nutrient intakes from specified food groups, describe which nutrients |
|  |

\* *For questions related to other contaminants, contact* [*MorBarnData@fhi.no*](mailto:MorBarnData@fhi.no)

### 5.1.6 References

Nutrient intakes calculated from foods reported in the Food frequency questionnaire

Meltzer et al. Maternal Child Nutr 2008 <https://www.ncbi.nlm.nih.gov/pubmed/18171404>

Brantsaeter et al. Maternal Child Nutr 2008 <https://www.ncbi.nlm.nih.gov/pubmed/18171405>

Brantsæter PHN 2007, <https://www.ncbi.nlm.nih.gov/pubmed/17493318> (fruit and vegetables)

Brantsæter et al Publ Health Nutr 2010, <https://www.ncbi.nlm.nih.gov/pubmed/19490733> (fish and seafood)

Brantsæter et al EJCN 2010 <https://www.ncbi.nlm.nih.gov/pubmed/18059417> (iodine and milk)

Nutrient intakes calculated from dietary supplements reported in the Food frequency questionnaire

Brantsaeter et al. ANM 2007 <https://www.ncbi.nlm.nih.gov/pubmed/17536192>

Haugen et al. ANM 2008 <https://www.ncbi.nlm.nih.gov/pubmed/18645244>

Nilsen et al. AJCN 2006 <https://www.ncbi.nlm.nih.gov/pubmed/17093167(folic> acid)

Brantsæter et al Publ Health Nutr 2010 <https://www.ncbi.nlm.nih.gov/pubmed/19490733> (fatty acids from fish)

Calculated nutrient intakes other than the nutrients in the regular data delivery from Q2

Brantsaeter et al. BMC PC 2017 <https://pubmed.ncbi.nlm.nih.gov/28103845/> (Fatty acids from fish and from fish oil supplements)

Abel et al. J Nutr. 2017;147(7):1314–1324. <https://pubmed.ncbi.nlm.nih.gov/28515161/> (Iodine from food and from dietary supplements)

Abel et al. Eur J Nutr. 2019;58(8):3047–3058. <https://pubmed.ncbi.nlm.nih.gov/30417257/> (Iodine from food and from dietary supplements)

Calculated contaminants

Vejrup et al. Environ Int. 2018;110:71–79. <https://pubmed.ncbi.nlm.nih.gov/29089166/> (Exposure to mercury)

Caspersen et al. Environ Int. 2013;59:398–407. <https://pubmed.ncbi.nlm.nih.gov/23911340/> (Exposure to PCBs and Dioxins)

Duarte-Salles et al. Environ Health Perspect. 2013;121(3):374–379. <https://pubmed.ncbi.nlm.nih.gov/23204292/> (Exposure to Acrylamide)

Kadawathagedara et al. Environ Int. 2018;113:325–334. <https://pubmed.ncbi.nlm.nih.gov/29398013/> (Exposure to Acrylamide)

Sengpiel et al. BMC Med. 2013;11:42. <https://pubmed.ncbi.nlm.nih.gov/23421532/> (Caffeine exposure)

Papadopoulou et al. BMJ Open. 2018;8(3):e018895. <https://pubmed.ncbi.nlm.nih.gov/29685923/> (Caffeine exposure)

## Calculated variables from Dietary questionnaire 13 (Q-youth diet) – 13-15 years

Projects requesting variables from dietary questionnaire 13 (Q-youth diet) may also request the following calculated variables required to answer the project’s aim:

### 5.2.1. Nutrient intakes calculated from self-reported food intake

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| vann\_g | Water (g) |  |
| kilojoule\_kj | Kilojoule (kJ) |  |
| kilokalorier\_kcal | Kilogramcalorie (kcal) |  |
| fett\_g | Fat (g) |  |
| mettet\_g | Saturated fatty acids (g) |  |
| c12\_0\_g | C12:0 (g) |  |
| c14\_0\_g | C14:0 (g) |  |
| c16\_0\_g | C16:0 (g) |  |
| c18\_0\_g | C18:0 (g) |  |
| trans\_g | Transunsaturated fatty acids (g) |  |
| enumettet\_g | Cis-mono unsaturated fatty (g) |  |
| c16\_1\_sum\_g | C16:1 sum (g) |  |
| c18\_1\_sum\_g | C18:1 sum (g) |  |
| flerumettet\_g | Cis-poly unsaturated fatty acids (g) |  |
| c18\_2n\_6\_g | C18:2n-6 (g) |  |
| c18\_3n\_3\_g | C18:3n-3 (g) |  |
| c20\_3n\_3\_g | C20:3n-3 (g) |  |
| c20\_3n\_6\_g | C20:3n-6 (g) |  |
| c20\_4n\_3\_g | C20:4n-3 (g) |  |
| c20\_4n\_6\_g | C20:4n-6 (g) |  |
| c20\_5n\_3\_g | C20:5n-3 (g) |  |
| c22\_5n\_3\_g | C22:5n-3 (g) |  |
| c22\_6n\_3\_g | C22:6n-3 (g) |  |
| omega\_3\_g | Cis-poly unsaturated fatty acids, n-3 (g) |  |
| omega\_6\_g | Cis-poly unsaturated fatty acids, n-6 (g) |  |
| kolesterol\_mg | Cholesterol (mg) |  |
| karbohydrat\_g | Carbohydrate, glycemic (g) |  |
| stivelse\_g | Starch (g) |  |
| mono\_disakk\_g | Mono+Di saccharides (g) |  |
| sukker\_tilsatt\_g | Sugar, added (g) |  |
| kostfiber\_g | Dietary fiber (g) |  |
| protein\_g | Protein (g) |  |
| salt\_g | Salt (g) |  |
| alkohol\_g | Alcohol (g) |  |
| vitamin\_a\_rae | Vitamin A (RAE) |  |
| retinol\_ug | Retinol (µg) |  |
| beta\_karoten\_ug | Beta-carotene (µg) |  |
| vitamin\_d\_ug | Vitamin D (µg) |  |
| vitamin\_e\_alfa\_te | Vitamin E (alfa-TE) |  |
| tiamin\_mg | Thiamin (mg) |  |
| riboflavin\_mg | Riboflavin (mg) |  |
| niacin\_mg | Niacin (mg) |  |
| vitamin\_b6\_mg | Vitamin B6 (mg) |  |
| folat\_ug | Folate (µg) |  |
| vitamin\_b12\_ug | Vitamin B12 (µg) |  |
| vitamin\_c\_mg | Vitamin C (mg) |  |
| kalsium\_mg | Calcium (mg) |  |
| jern\_mg | Iron (mg) |  |
| natrium\_mg | Sodium (mg) |  |
| kalium\_mg | Potassium (mg) |  |
| magnesium\_mg | Magnesium (mg) |  |
| sink\_mg | Zinc (mg) |  |
| selen\_ug | Selenium (µg) |  |
| kopper\_mg | Copper (mg) |  |
| fosfor\_mg | Phosphorus (mg) |  |
| jod\_ug | Iodine (µg) |  |
| **All above** | **All above** |  |

### 5.2.2. Other calculated variables from Q-youth diet

|  |
| --- |
| If other variables are needed\*, please describe here.  Examples:   * the calculated food intakes in gram/day of specified foods and food groups * the contribution to nutrient intakes from specified food groups, describe which nutrients |
|  |

\* *For questions related to other contaminants, contact* [*MorBarnData@fhi.no*](mailto:MorBarnData@fhi.no)*.*

# Biological data products

The following section describes available data products with metabolic, proteomic, and genetic biomarker variables generated through analysis of biological samples collected from MoBa participants. Upon receipt of requested variables from a given biological data product, the project will receive accompanying product documentation that provides detailed scientific information related to variable categories and/or value interpretation, sampling and data generation procedure(s), study population and selection criteria, as well as any existing restrictions for use and recommended acknowledgements or citations for reference purposes in peer-review publication of novel analyses and results.

## Metabolomic biomarkers

## MAB001 – Vitamin B and one-carbon metabolites

*Projects interested in including data from* ***MAB001*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB001\_AA\_A** | Anthranilic acid |  |
| **MAB001\_ADMA\_C** | Asymmetric dimethylarginine |  |
| **MAB001\_ARG\_C** | Arginine |  |
| **MAB001\_BETAINE\_C** | Betaine |  |
| **MAB001\_CHOLINE\_C** | Choline |  |
| **MAB001\_COB\_F** | Cobalamin |  |
| **MAB001\_COT\_D** | Cotinine |  |
| **MAB001\_CREAT\_C** | Creatinine |  |
| **MAB001\_CYSTA\_A** | Cystathionine |  |
| **MAB001\_CYSTA\_D** | Cystathionine |  |
| **MAB001\_DMG\_C** | Dimethylglycine |  |
| **MAB001\_GLYCINE\_A** | Glycine |  |
| **MAB001\_HK\_D** | 3'-Hydroxykynurenine |  |
| **MAB001\_HAA\_D** | 3'-Hydroxyanthranilic acid |  |
| **MAB001\_KA\_D** | Kynurenic acid |  |
| **MAB001\_KYN\_A** | Kynurenine |  |
| **MAB001\_MET\_A** | Methionine |  |
| **MAB001\_METSO\_C** | Methionine sulfoxide |  |
| **MAB001\_MMA\_A** | Methylmalonic acid |  |
| **MAB001\_NEOPT\_D** | Neopterin |  |
| **MAB001\_PA\_D** | Pyridoxic acid |  |
| **MAB001\_PL\_D** | Pyridoxal |  |
| **MAB001\_PLP\_D** | Pyridoxal 5'-phosphate |  |
| **MAB001\_PM\_D** | Pyridoxamine |  |
| **MAB001\_PN\_D** | Pyridoxine |  |
| **MAB001\_RIBO\_D** | Riboflavin |  |
| **MAB001\_SDMA\_C** | Symmetric dimethylarginine |  |
| **MAB001\_SERINE\_A** | Serine |  |
| **MAB001\_SPFOLATE\_F** | Folate |  |
| **MAB001\_TCYS\_A** | Total cysteine |  |
| **MAB001\_THCY\_A** | Total homocysteine |  |
| **MAB001\_TRP\_B** | Tryptophan |  |
| **MAB001\_XA\_D** | Xanthurenic acid |  |

## MAB003 – Per- and Polyfluoroalkyl Substances (PFAS)

*Projects interested in including data from* ***MAB003*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB003\_PFBA** | Perfluorobutanoic acid |  |
| **MAB003\_PFDA** | Perfluorodecanoic acid |  |
| **MAB003\_PFDoDA** | Perfluorododecanoic acid |  |
| **MAB003\_PFHpA** | Perfluoroheptanoic acid |  |
| **MAB003\_PFHpS** | Perfluoroheptane sulfonic acid |  |
| **MAB003\_PFHxS** | Perfluorohexane sulfonic acid |  |
| **MAB003\_PFNA** | Perfluorononanoic acid |  |
| **MAB003\_PFOA** | Perfluorooctanoic acid |  |
| **MAB003\_PFOS** | Perfluorooctane sulfonic acid |  |
| **MAB003\_PFOSA** | Perfluorooctane sulfonamide |  |
| **MAB003\_PFTeDA** | Perfluorotetradecanoic acid |  |
| **MAB003\_PFTrDA** | Perfluorotridecanoic acid |  |
| **MAB003\_PFUnDA** | Perfluoroundecanoic acid |  |

## MAB004 - Vitamin A, D2, D3 and E

*Projects interested in including data from* ***MAB004*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB004\_VITAMIN\_A** | Vitamin A |  |
| **MAB004\_VITAMIN\_D2** | Vitamin D2 |  |
| **MAB004\_VITAMIN\_D3** | Vitamin D3 |  |
| **MAB004\_VITAMIN\_E** | Vitamin E |  |

## MAB005 - Perfluorinated compounds

*Projects interested in including data from* ***MAB005*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB005\_PFDA** | Perfluorodecanoic acid |  |
| **MAB005\_PFDoDA** | Perfluorododecanoic acid |  |
| **MAB005\_PFHpA** | Perfluoroheptanoic acid |  |
| **MAB005\_PFHpS** | Perfluoroheptane sulfonic acid |  |
| **MAB005\_PFHxS** | Perfluorohexane sulfonic acid |  |
| **MAB005\_PFNA** | Perfluorononanoic acid |  |
| **MAB005\_PFOA** | Perfluorooctanoic acid |  |
| **MAB005\_PFOS** | Perfluorooctane sulfonic acid |  |
| **MAB005\_PFTrDA** | Perfluorotridecanoic acid |  |
| **MAB005\_PFUnDA** | Perfluoroundecanoic acid |  |

## MAB007 - Heavy metals and essential elements

*Projects interested in including data from* ***MAB007*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB007\_As** | Arsenic |  |
| **MAB007\_Cd** | Cadmium |  |
| **MAB007\_Co** | Cobalt |  |
| **MAB007\_Cs** | Cesium |  |
| **MAB007\_Cu** | Copper |  |
| **MAB007\_Hg** | Mercury |  |
| **MAB007\_K** | Potassium |  |
| **MAB007\_Mg** | Magnesium |  |
| **MAB007\_Mn** | Manganese |  |
| **MAB007\_Mo** | Molybdenum |  |
| **MAB007\_Na** | Sodium |  |
| **MAB007\_Pb** | Lead |  |
| **MAB007\_Se** | Selenium |  |
| **MAB007\_Tl** | Thallium |  |
| **MAB007\_Zn** | Zinc |  |

## MAB008 - Per- and Polyfluoroalkyl Substances (PFAS)

*Projects interested in including data from* ***MAB008*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB008\_PFDA** | Perfluorodecanoic acid |  |
| **MAB008\_PFDoDA** | Perfluorododecanoic acid |  |
| **MAB008\_PFHpA** | Perfluoroheptanoic acid |  |
| **MAB008\_PFHpS** | Perfluorohepane sulfonic acid |  |
| **MAB008\_PFHxS** | Perfluorohexan sulfonic acid |  |
| **MAB008\_PFNA** | Perfluorononanoic acid |  |
| **MAB008\_PFOA** | Perfluorooctanoic acid |  |
| **MAB008\_PFOS** | Perfluorooctane sulfonic acid |  |
| **MAB008\_PFOSA** | Perfluorooctane sulfonamide |  |
| **MAB008\_PFTrDA** | Perfluorotridecanoic acid |  |
| **MAB008\_PFUnDA** | Perfluoroundecanoic acid |  |

## MAB009 - Heavy metals and essential elements

*Projects interested in including data from* ***MAB009*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB009\_As** | Arsenic |  |
| **MAB009\_Cd** | Cadmium |  |
| **MAB009\_Co** | Cobalt |  |
| **MAB009\_Cs** | Cesium |  |
| **MAB009\_Cu** | Copper |  |
| **MAB009\_Hg** | Mercury |  |
| **MAB009\_K** | Potassium |  |
| **MAB009\_Mg** | Magnesium |  |
| **MAB009\_Mn** | Manganese |  |
| **MAB009\_Mo** | Molybdenum |  |
| **MAB009\_Na** | Sodium |  |
| **MAB009\_Pb** | Lead |  |
| **MAB009\_Se** | Selenium |  |
| **MAB009\_Tl** | Thallium |  |
| **MAB009\_Zn** | Zinc |  |

## MAB010 - Per- and Polyfluoroalkyl Substances (PFAS)

*Projects interested in including data from* ***MAB010*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB010\_PFDA** | Perfluorodecanoic acid |  |
| **MAB010\_PFHpA** | Perfluoroheptanoic acid |  |
| **MAB010\_PFHpS** | Perfluorohepane sulfonic acid |  |
| **MAB010\_PFHxS** | Perfluorohexan sulfonic acid |  |
| **MAB010\_PFNA** | Perfluorononanoic acid |  |
| **MAB010\_PFOA** | Perfluorooctanoic acid |  |
| **MAB010\_PFOS** | Perfluorooctane sulfonic acid |  |
| **MAB010\_PFOSA** | Perfluorooctane sulfonamide |  |
| **MAB010\_PFTrDA** | Perfluorotridecanoic acid |  |
| **MAB010\_PFUnDA** | Perfluoroundecanoic acid |  |

## MAB011 – Heavy metals and essential elements

*Projects interested in including data from* ***MAB011*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB011\_As** | Arsenic |  |
| **MAB011\_Cd** | Cadmium |  |
| **MAB011\_Co** | Cobalt |  |
| **MAB011\_Cu** | Copper |  |
| **MAB011\_Hg** | Mercury |  |
| **MAB011\_Mn** | Manganese |  |
| **MAB011\_Mo** | Molybdenum |  |
| **MAB011\_Pb** | Lead |  |
| **MAB011\_Se** | Selenium |  |
| **MAB011\_Tl** | Thallium |  |
| **MAB011\_Zn** | Zinc |  |

## MAB012 – Nutritional, stress, renal and metabolic disease biomarkers

*Projects interested in including data from* ***MAB012*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB012\_U-Alb-Mi** | Albumin |  |
| **MAB012\_U-K** | Potassium |  |
| **MAB012\_U-Korsol** | Cortisol |  |
| **MAB012\_U-Krea** | Creatinine |  |
| **MAB012\_U-Na** | Sodium |  |
| **MAB012\_U-Uraat** | Uric acid |  |

## MAB013 – Carotenoids

*Projects interested in including data from* ***MAB013*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB013\_AlphaCarotene\_Conc** | α-Carotene |  |
| **MAB013\_AlphaCryptoxanthin\_Conc** | α-Cryptoxanthin |  |
| **MAB013\_AlphaTocopherol\_Conc** | α-Tocopherol |  |
| **MAB013\_BetaCarotene\_Conc** | β-Carotene |  |
| **MAB013\_BetaCryptoxanthin\_Conc** | β-Cryptoxanthin |  |
| **MAB013\_GammaCarotene\_Conc** | γ-Carotene |  |
| **MAB013\_GammaTocopherol\_Conc** | γ-Tocopherol |  |
| **MAB013\_Lycopene\_Conc** | Lycopene |  |
| **MAB013\_Retinol\_Conc** | Retinol |  |
| **MAB013\_TotalLutein\_Conc** | Total Lutein |  |
| **MAB013\_UnidentifiedCaro\_Conc** | Unidentified Carotene |  |

## MAB014 – Iodine

*Projects interested in including data from* ***MAB014*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB014\_Conc.ugl** | Iodine |  |

## MAB015 – Organophosphate esters (OPEs)

*Projects interested in including data from* ***MAB015*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB015\_BBOEP** | bis(2-butoxyethyl) hydrogen phosphate |  |
| **MAB015\_BDCIPP** | bis(1,3-dichloro-2-propyl) phosphate |  |
| **MAB015\_DNBP** | di-n-butyl phosphate |  |
| **MAB015\_DPHP** | diphenyl phosphate |  |

## MAB016 – Organophosphorous pesticides (OPs)

*Projects interested in including data from* ***MAB016*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB016\_Diethyldithiophosphate** | DEDTP |  |
| **MAB016\_Diethylphosphate** | DEP |  |
| **MAB016\_Diethylthiophosphate** | DETP |  |
| **MAB016\_Dimethyldithiophosphate** | DMDTP |  |
| **MAB016\_Dimethylphosphate** | DMP |  |
| **MAB016\_Dimethylthiophosphate** | DMTP |  |

## MAB017 – Phthalates

*Projects interested in including data from* ***MAB017*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **MAB017\_cxMiNP** | Mono-4-methyl-7-carboxyoctyl phthalate |  |
| **MAB017\_MBzP** | Mono benzyl phthalate |  |
| **MAB017\_MECPP** | Mono-2-ethyl 5-carboxypentyl phthalate |  |
| **MAB017\_MEHHP** | Mono-2-ethyl-5-hydroxyhexyl phthalate |  |
| **MAB017\_MEHP** | Mono-2-ethylhexyl phthalate |  |
| **MAB017\_MEOHP** | Mono-2-ethyl-5-oxohexyl phthalate |  |
| **MAB017\_MEP** | Monoethyl phthalate |  |
| **MAB017\_MiBP** | Mono-iso-butyl phthalate |  |
| **MAB017\_MMCHP** | Mono-2-carboxymethyl hexyl phthalate |  |
| **MAB017\_MnBP** | Mono-n-butyl phthalate |  |
| **MAB017\_ohMiNP** | Mono-4-methyl-7-hydroxyoctyl phthalate |  |
| **MAB017\_oxoMiNP** | Mono-4-methyl-7-oxooctyl phthalate |  |

## Proteomic biomarkers

## PRO001 - Hormone, metabolic and inflammatory biomarkers

*Projects interested in including data from* ***PRO001*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **PRO001\_ALB** | Albumin |  |
| **PRO001\_ApoB** | Apolipoprotein B |  |
| **PRO001\_CHOL** | Cholesterol |  |
| **PRO001\_CRP** | C-reactive protein |  |
| **PRO001\_HDL** | High-density lipoprotein cholesterol |  |
| **PRO001\_LDL** | Low-density lipoprotein cholesterol |  |
| **PRO001\_TRIG** | Triglycerides |  |
| **PRO001\_TSH\_1** | Thyroid stimulating hormone |  |
| **PRO001\_TSH\_2** | Thyroid stimulating hormone |  |
| **PRO001\_UA** | Uric Acid |  |

## PRO002 - Dietary, renal and inflammatory biomarkers

*Projects interested in including data from* ***PRO002*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **PRO002\_ALBUMIN** | Albumin |  |
| **PRO002\_CREATININE** | Creatinine |  |
| **PRO002\_CRP** | C-reactive protein |  |
| **PRO002\_CYSTATIN\_C** | Cystatin C |  |
| **PRO002\_HDL** | High-density lipoprotein cholesterol |  |

## PRO003 - Inflammatory, nutritional, metabolic and thyroid function biomarkers

*Projects interested in including data from* ***PRO003*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **PRO003\_FP-KOL** | Cholesterol |  |
| **PRO003\_P-D-25** | 25-hydroxyvitamin D |  |
| **PRO003\_P-FERRIT** | Ferritin |  |
| **PRO003\_P-HS-CRP** | C-reactive protein |  |
| **PRO003\_P-T3-V** | Free triiodothyronine |  |
| **PRO003\_P-T4-V** | Free thyroxine |  |
| **PRO003\_P-TPOAB** | Thyroid peroxidase antibody |  |
| **PRO003\_P-TRANSF** | Transferrin |  |
| **PRO003\_P-TSH** | Thyroid stimulating hormone |  |
| **PRO003\_P-TRYGLAB** | Thyroglobulin |  |

## PRO004 - Glycated Hemoglobin

*Projects interested in including data from* ***PRO004*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **PRO004\_B-GHb-A1C** | Glycated hemoglobin A1c, percentage |  |
| **PRO004\_B-HbA1c** | Glycated hemoglobin A1c |  |

## PRO006 - Thyroid function biomarkers

*Projects interested in including data from* ***PRO006*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **PRO006\_T3** | Triiodothyronine |  |
| **PRO006\_T3uptake** | Triiodothyronine resin uptake |  |
| **PRO006\_T4** | Thyroxine |  |
| **PRO006\_TPOAb** | Thyroid peroxidase antibody |  |
| **PRO006\_TSH** | Thyroid-stimulating hormone |  |

## Genetic biomarkers

## GTP001 – Polymorphisms related to one-carbon, folate or homocysteine metabolism

*Projects interested in including data from* ***GTP001*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **GTP001\_BHMT\_G74** | G→A mutation at position 742 |  |
| **GTP001\_CBS\_844I** | 68 bp insertion in the coding region of exon 8 |  |
| **GTP001\_CBS\_C699** | C→T mutation at position 699 |  |
| **GTP001\_CTH\_G136** | G→T mutation at position 1364 |  |
| **GTP001\_DHFR\_19D** | Functional polymorphic 19-bp deletion within intron-1 |  |
| **GTP001\_FOLR1\_G1** | G→A mutation at position 1314 |  |
| **GTP001\_MTHFD1\_G** | G→A mutation at position 1958 |  |
| **GTP001\_MTHFD1\_R** | T→C mutation at position –105 in the promoter region |  |
| **GTP001\_MTHFR\_A1** | A→C mutation at position 1298 |  |
| **GTP001\_MTHFR\_C6** | C→T mutation at position 677 |  |
| **GTP001\_MTR\_A275** | A→G mutation at position 2756 |  |
| **GTP001\_MTRR\_A66** | A→G mutation at position 66 |  |
| **GTP001\_MTRR\_C52** | C→T mutation at position 524 |  |
| **GTP001\_NOS7\_T78** | T→C mutation at position −786 in the promoter region |  |
| **GTP001\_NOS8\_G89** | G→T mutation at position 894 |  |
| **GTP001\_RFC1\_G80** | G→A mutation at position 80 |  |
| **GTP001\_SHMT\_C14** | C→T mutation at position 1420 |  |
| **GTP001\_TCII\_A67** | A→G mutation at position 67 |  |
| **GTP001\_TCII\_C77** | C→G mutation at position 776 |  |
| **GTP001\_TYMS\_DEL** | 6-bp deletion in the 3'-untranslated region |  |

***Target loci abbreviations for GTP001***

Betaine-homocysteine methyltransferase (BHMT)

Cystathionase (Cystathionine gamma-Lyase) (CTH)

Cystathionine ß-synthase (CBS)

Dihydrofolate reductase (DHFR)

Folate receptor alpha (FOLR1)

Methionine synthase (MTR)

Methionine synthase reductase (MTRR)

Methylenetetrahydrofolate reductase (MTHFR)

Methylenetetrahydrofolate dehydrogenase, cyclohydrolase and formyltetrahydrofolate synthetase 1 (MTHFD1)

Nitric oxide synthase 3 (NOS)

Serine hydroxymethyltransferase 1 (SHMT)

Solute carrier family 19 member 1 (SLC19A1) (also commonly referred to as Reduced folate carrier-1 (RFC1) in the literature)

Thymidylate synthase (TYMS)

Transcobalamin 2 (TCII)

## GTP002 – Polymorphisms related to xenobiotic metabolism

*Projects interested in including data from* ***GTP002*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **GTP002\_rs10770704** | Single nucleotide polymorphism within SLCO1C1 |  |
| **GTP002\_rs10944479** | Single nucleotide polymorphism within BACH2 |  |
| **GTP002\_rs11675434** | Single nucleotide polymorphism within the TPO region |  |
| **GTP002\_rs12101255** | Single nucleotide polymorphism within TSHR |  |
| **GTP002\_rs12720461** | Single nucleotide polymorphism within CYP1A2 |  |
| **GTP002\_rs14399** | Single nucleotide polymorphism within SLC16A10 |  |
| **GTP002\_rs1695** | Single nucleotide polymorphism within GSTP1 |  |
| **GTP002\_rs1801280** | Single nucleotide polymorphism within NAT2 |  |
| **GTP002\_rs2069521** | Single nucleotide polymorphism within CYP1A2 |  |
| **GTP002\_rs2069526** | Single nucleotide polymorphism within CYP1A2 |  |
| **GTP002\_rs2235544** | Single nucleotide polymorphism within DIO1 |  |
| **GTP002\_rs225011** | Single nucleotide polymorphism within DIO2 |  |
| **GTP002\_rs225012** | Single nucleotide polymorphism within DIO2 |  |
| **GTP002\_rs225014** | Single nucleotide polymorphism within DIO2 |  |
| **GTP002\_rs2470890** | Single nucleotide polymorphism within CYP1A2 |  |
| **GTP002\_rs28399433** | Single nucleotide polymorphism within CYP2A6 |  |
| **GTP002\_rs301799** | Single nucleotide polymorphism within RERE |  |
| **GTP002\_rs35599367** | Single nucleotide polymorphism within CYP3A4 |  |
| **GTP002\_rs366631** | Single nucleotide polymorphism within GSTM1 |  |
| **GTP002\_rs4646421** | Single nucleotide polymorphism within CYP1A1 |  |
| **GTP002\_rs4986988** | Single nucleotide polymorphism within NAT1 |  |
| **GTP002\_rs653178** | Single nucleotide polymorphism within ATXN2 |  |
| **GTP002\_rs662** | Single nucleotide polymorphism within PON1 |  |
| **GTP002\_rs854560** | Single nucleotide polymorphism within PON1 |  |

***Target loci abbreviations for GTP002***

Solute carrier organic anion transporter family member 1C1 (SLCO1C1)

Broad complex-tramtrack-bric a brac and Cap'n'collar homology 2 (BACH2)

Thyroid peroxidase (TPOregion )

Thyroid-stimulating hormone receptor (TSHR)

Cytochrome P450 1A2 (CYP1A2)

Solute carrier family 16 member 10 (SLC16A10)

Glutathione S‑transferase P1 (GSTP1)

N-acetyltransferase 2 (NAT2)

Cytochrome P450 1A2 (CYP1A2)

Cytochrome P450 1A2 (CYP1A2)

Iodothyronine deiodinase 1 (DIO1)

Iodothyronine deiodinase 2 (DIO2)

Iodothyronine deiodinase 2 (DIO2)

Iodothyronine deiodinase 2 (DIO2)

Cytochrome P450 1A2 (CYP1A2)

Cytochrome P450 2A6 (CYP2A6)

Arginine-glutamic acid dipeptide repeats (RERE)

Cytochrome P450 3A4 (CYP3A4)

Glutathione S-transferase mu 1 (GSTM1)

Cytochrome P450 1A1 (CYP1A1)

N-acetyltransferase 1 (NAT1)

Ataxin-2 (ATXN2)

Paraoxonase 1 (PON1)

Paraoxonase 1 (PON1)

## TEL001 – Leukocyte telomere length

*Projects interested in including data from* ***TEL001*** *may request the following variables\*:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **TEL001\_TRF1** | Terminal restriction fragment 1 |  |
| **TEL001\_TRF2** | Terminal restriction fragment 2 |  |

\*In addition to the TRF biomarker variables described above, the following variables are provided as standard upon delivery of the TEL001 data product:

**TEL001\_Batch** (Batch number)

**TEL001\_Gel** (Southern blot gel number)

**TEL001\_Line** (Gel line number)

**TEL001\_Reason** (Reason for sample insufficiency)

## ZYG001 - Zygosity of MoBa twins

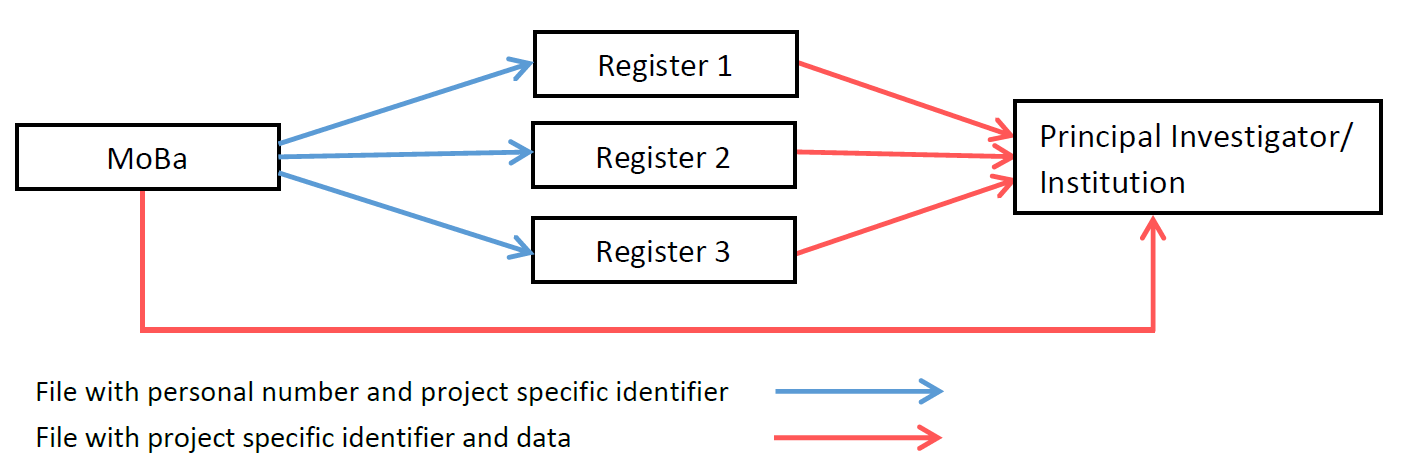
*Projects interested in including data from* ***ZYG001*** *may request the following variables:*

| **Variable** | **Description** | **Check relevant** |
| --- | --- | --- |
| **ZYG001\_C\_ZYG** | Zygosity |  |
| **ZYG001\_C\_ZYG\_METHOD** | Method used to determine zygosity |  |

1. Flow charts illustrating linkage methods

**DL - Distributed linkage (preferred method)**

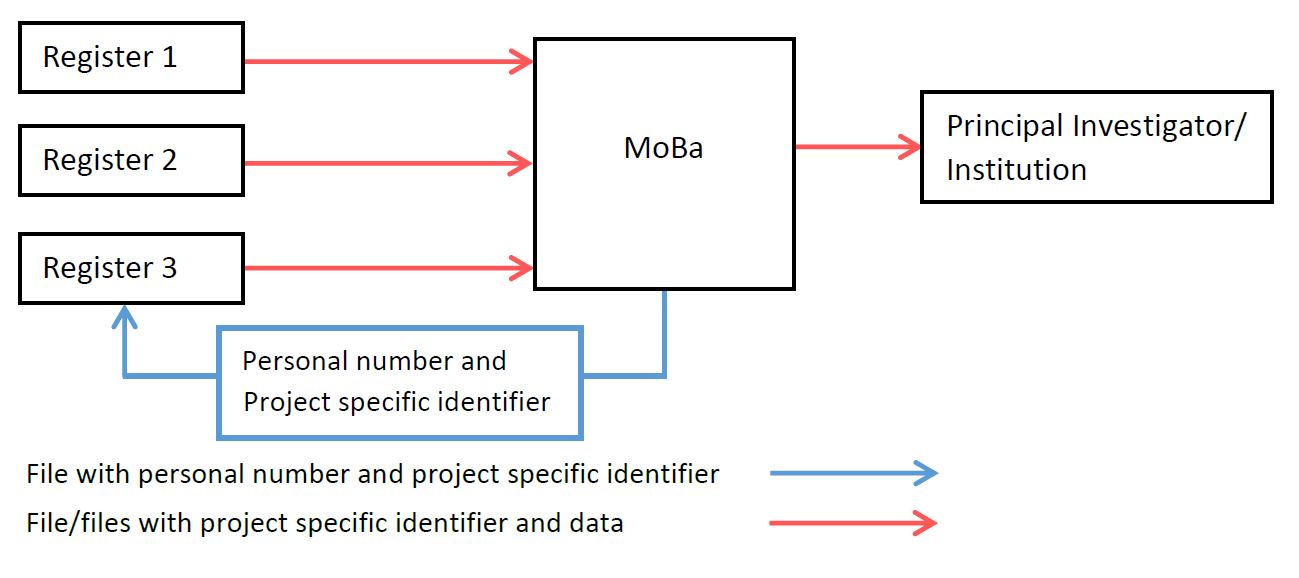
MoBa sends the selection/retrieval with project specific ID to the registers (or other data sources). The registers links data to the received project specific ID and deliver the data file to the Principal Investigator. The Principal Investigator links the data from the different registers/data sources by using the project specific ID.



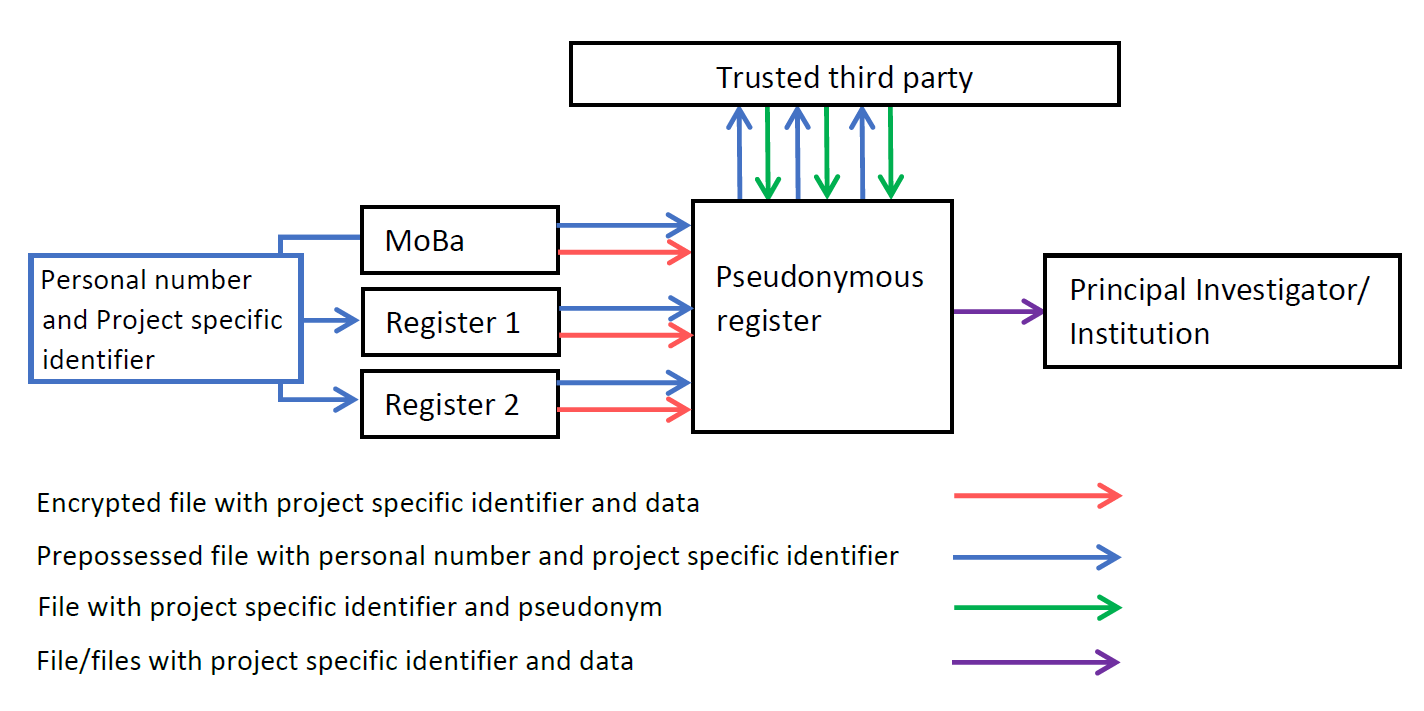
**Centralised linkage**

**CL1 – Centralised at MoBa**

MoBa sends the selection/retrieval with person number and project specific ID to the registers (or other data sources). The data from the registries are sent to MoBa for linking before the data file/files are delivered to the Principal Investigator.



**CL2 – Centralised at a pseudonymous register**



1. Coded variables for medication are available upon special request. Fill in relevant coded variables for medication in Section 4. [↑](#endnote-ref-1)
2. Coded variables for occupation containing more than the 1st digit are available upon special request. Fill in relevant coded variables for occupation in Section 4. [↑](#endnote-ref-2)
3. More detailed data on maternal and/or child dietary supplement use is available upon special request. Fill in relevant information in Section 5. [↑](#endnote-ref-3)