Diet-Related Fibers & Human Health Outcomes Database, Version 9.2
User Manual

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Users of this database should provide attribution in the acknowledgement of any publications or presentations acknowledging Dr. Nicola McKeown as Principal Investigator and IAFNS as the funding agent, as follows, “Supported by the Technical Committee on Dietary Carbohydrates of the Institute for the Advancement of Food and Nutrition Sciences (IAFNS).” Detailed information can be found at: https://iafns.org/our-work/research-tools-open-data/dietary-fiber-database/
Please refer to the following website for additional information on IAFNS: https://iafns.org/about-us/who-we-are/
The commonality to all fibers is the fact that they are non-digestible by endogenous enzymes; however, fiber is not a group of structurally similar compounds. As you can imagine, creating a comprehensive database linking fiber to a variety of health outcomes is complicated due to the complexity of defining fiber and the potential ways to classify fiber. For example, fiber includes isolated fibers (e.g. pectin and gum), fiber-enriched ingredients (oat bran, psyllium, or lupin kernel flour enriched breads), cereal fibers in whole-grains, fruit or vegetable fibers, dietary pulses, or fiber supplements. This database was developed to serve as a resource to assist health researchers in linking fibers to a variety of health outcomes in a quick and efficient manner.

A database capturing published research on fiber needs to be flexible from the standpoint of data extraction, striking a balance between standardizing data fields and adequately capturing pertinent information from individual publications. It also needs to be flexible from a user perspective. For example, a researcher using this database may be interested in searching the fibers at the level of the food source and comparing fiber from cereal sources to fiber from fruits and vegetables. On the other hand, a researcher may be interested in fiber intake at the level of the cereal components - cellulose, lignin & hemicelluloses, primarily insoluble fibers, to fruit and vegetable components such as pectins, gums, mucilages, and primarily soluble fibers. As such, the goal of this database is to meet the needs of a variety of users, providing them with a tool to search fibers and health outcomes captured in the published literature, directing them to potential literature of interest. In creating this database, data extractors used the description of the fiber as it was presented in the publication, and, as such, multiple fiber descriptions may capture the same type of fiber. Appendix 1 provides a list of all fiber types captured in the database, and we recommend that you review this full list before beginning your search for fiber types. We have also included, in Appendix 2, some recommendations for searching groups of fibers that you may wish to consider.

The number of publications examining fiber and health will continue to increase, and our goal is to update this database regularly, as funding allows, to incorporate new literature. Our research group will continue to work on updating this database, and we are available to help you with any aspect of using this database. We have used this database to create a fiber evidence map. An evidence map is a method of identifying, organizing, and summarizing scientific evidence on a broad topic and can provide a foundation for other work such as systematic reviews and identifying research gaps. We encourage you to provide your feedback, and we will continue to incorporate changes, where necessary, to ensure that we build a sustainable database for years to come.
The objectives of this database are to:

1. Systematically compile and provide access to primary, English-language, peer-reviewed science linking fiber intake in humans to one or more of 9 potential health benefits
2. Provide researchers with a tool to understand how different fibers are characterized in studies
3. Facilitate researchers in identifying gaps in the current research
4. Create a database to serve as a starting foundation of primary human literature for conducting evidence-based reviews and meta-analyses
5. Efficiently assist researchers in identifying fibers of interest

This database should serve as a foundation for future work. Specific inclusion and exclusion criteria, detailed below, were applied in determining database eligibility; thus, this database is not intended to serve as a sole source for identifying all possible fiber literature for the purposes of conducting a meta-analysis or systematic review. This database contains Population, Intervention, Comparator, and Outcome (PICO) data to help users formulate and narrow the focus of their research question. It is expected that secondary searches will be conducted to augment this database. If conducting a systematic review, we recommend reviewing the following source: Liberati A, Altman DG, Tetzlaff J, Mulrow C, Götzsche PC, Ioannidis JPA, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. PLoS Medicine 2009;6(7):e1000100. It is important to note that for this version of the database, the screening of studies and data extraction were performed for the majority of papers by only 1 person; as such, users are strongly encouraged to confirm the data they require is captured. We imagine that the users will narrow down their search to fiber(s) of interest and will populate their version of the database with additional data (such as results).

We conducted a search in Pubmed, via the OVID Medline search engine, to identify research on fiber intervention and prospective observational studies and 9 physiological health effects identified at the Ninth Vahouny Fiber Symposium in 2010. The 9 health effects of interest were as follows:

1. Total and LDL cholesterol
2. Post-prandial glucose & insulin
3. Blood pressure
4. Increased fecal bulk and laxation
5. Transit time (time it takes food to move through digestive track)
6. Colonic fermentation & SCFA production
7. Modulation of colonic microflora
8. Weight loss, weight maintenance, and reduction in adiposity
9. Increased satiety
10. Bone health (added in 2016 with Version 3 due to growing interest, not a Vahouny outcome)

We applied the following inclusion and exclusion criteria to determine eligibility for inclusion in our fiber database:

**Inclusion criteria:**
- Studies published from 1946 to September 2013 identified in OVID MEDLINE® and indexed in PubMed (with a PubMed ID)
- Published in English
- Abstracts meeting the above criteria along with the specific search term criteria for a fiber term and a Vahouny health outcome term (an extensive list of search terms was developed by the research team with input from the IAFNS Technical Committee on Carbohydrates
Specific exclusion criteria:

- Reviews, bibliographies, case reports
- Observational studies (i.e., cross-sectional or prevalence studies)
- Fiber was not orally ingested (i.e., administered intravenously, patients on enteral nutrition)
- Population is infants (<3 years)
- Population is pregnant and/or breastfeeding women
- Population has any type of disease* (including, but not limited to, cancer, bowel disease, renal failure, ileostomy, depression, autism, PCOS)
  *with the exception of Type II diabetes, digestive problems, hyperlipidemia, hypercholesterolemia, hypertension, & metabolic syndrome which are not exclusion criteria; Also, common/mild constipation is not an exclusion criteria.
- Intervention has no concurrent control arm
- Fiber dose not clearly reported
- No fiber intervention
- An outcome of interest is not reported
- Intervention not sufficiently controlled to measure the effect of the fiber
- Synbiotic studies
- Animal-only studies
- In vitro studies

NOTE: NEW BEGINNING WITH VERSION 4.1

As noted by the cross-out above, younger populations are no longer excluded from this database. Versions 1.0-4.0 of the database excluded populations <3 years of age. Beginning with version 4.1, all ages are included in the database. For version 4.1, a Medline search from 1946-Feb 2018 was conducted to identify and include all relevant literature on these younger populations that was previously excluded, assuming the literature met all other inclusion and exclusion criteria for the database. Along these lines, a small number of identified studies examined outcomes in neonates or infants following fiber interventions that were administered to their mothers during pregnancy. These papers were included only in situations where outcomes were examined in the infants themselves after birth (not the pregnant mothers). Literature on all ages is included in subsequent database updates to allow for study of fiber intake across the lifespan.

Brief summary of screening process, Version 1:

We identified n=7,257 potentially relevant abstracts. These n=7,257 were screened at the abstract level, following which n=5,210 were excluded as irrelevant. The remaining n=2,047 were then full-text screened, and n=813 manuscripts were identified as relevant and included in the database. The final database contains n=868 entries due to the fact that a small number of manuscripts detailed multiple, distinct studies within the same manuscript (n=37 detailed 2 studies, n=5 detailed 3 studies). These were entered as separate entries. We also included n=8 eligible
papers identified via hand search at the request of the IAFNS carbohydrate committee. We anticipate adding additional papers in updated versions, identified via hand searches, upon request if they meet the inclusion criteria.

General rules for data extraction

- If needed (due to space limitations of the database), information listed in the abstract was prioritized.
- Information provided is based on how authors reported in the manuscript. No interpretations or quality assessments were made during data extractions, with the exception of values presented with the approximate (~) symbol.
- Use of the ~ symbol indicates that the value was not presented in the manuscript but was able to be calculated by data extractors using available information in the manuscript.
- Use of “NR” indicates “not reported.”

BRIEF SUMMARY OF METHODS FOR DATABASE VERSION 9.2 (released Jan 2024)

Version 9.2: We replicated the earlier Medline searches, restricting to literature published from July 2023-September 2023. Data from before this timeframe was already captured in previous versions of the database. The same screening and data extraction methods were applied as described above for the original database. Please note that additions made in previous database versions (ie. adding bone health outcomes and incorporating literature on all age groups) are included in this version and will continue to be included in all versions moving forward.

The final database version 9.2 includes n=1,318 entries. Please note that the number of entries in version 9.2 is less than version 9.1 (n=1,351), as the database has undergone additional detailed review and cleaning, and 27 entries were removed as they were determined to not detail a true dietary fiber exposure, not to be adequately controlled, or not sufficient to isolate the effect of the fiber. Six new studies were added to the database with version 9.2.

A NOTE ON PUBLMED IDs AND MULTIPLE ENTRIES

If a single manuscript detailed multiple, distinct studies, these studies were entered as multiple entries into the database. Such entries are denoted by numbers at the end of the title (ie. Title [1], Title [2], etc). Thus, UniqueID (not Pubmed ID) is the unique identifier for entries in the database.
DATABASE CODEBOOK

PUBLICATION INFORMATION

FiberID (FiberID)
Unique Identifier
*Assigned unique identifier since PubMed ID is not necessarily unique (see below, PubMed ID)*

DOI (DOI)
Digital Object Identifier
*Link to full manuscript*

PubMed ID (PMID)
Pubmed Identifier
*Manuscripts with multiple entries are denoted by numbers at the end of the title (i.e. Title [1], Title [2], etc.)*

Title of manuscript (Title)
In cases where the study was entered more than once (previously detailed in ID field above), this was indicated in the title by adding [#] to the end of the title field. For example, the following manuscript contained two, distinct studies and, thus, titles were entered as follows:
The effect of unabsorbable carbohydrate on gut hormones. Modification of post-prandial GIP secretion by guar. [1]
The effect of unabsorbable carbohydrate on gut hormones. Modification of post-prandial GIP secretion by guar. [2]

Author list (Author)

Year of Publication (Pubyear)
Year of publication, manually entered by data extractors.

Country of publication (Country)
Categorical variable (select one)
*Data extractors were instructed to select country where study was conducted. If country where study was conducted was not detailed, extractors were instructed to use the country of the first author’s affiliation.*
Version (Version)

Categorical variable (select one)

- 4.0
- 4.1
- 5.0
- 6.0
- 7.0
- 8.0
- 8.1
- 8.2
- 9.1
- 9.2

This database was originally updated annually, and the ‘version’ variable was added in 2018 to designate, moving forward from version 4.0, which entries were added to the database in which version. Thus, all studies from version 4.0 (published in January 2018) and before are designed “4.0.” Studies added to versions after 4.0 are designated as their respective version. Version 4.1 was published in September 2018, version 5.0 in April 2019, version 6.0 in January 2021, version 7.0 in December 2021, version 8.0 in October 2022, version 8.1 in January 2023, version 8.2 in April 2023, and version 9.1 in September 2023. Updates were done annually through version 7.0. Beginning with version 8.0, updates occurred multiple times per year.

STUDY DESIGN DETAILS

What was the study design? (Design)
Categorical variable with the following options (select one):

- Randomized Controlled Trial (Crossover)
- Randomized Controlled Trial (Parallel)
- Non-Randomized Controlled Trial
- Other (if other, please specify using text)

Was the study blinded? (Blindness)
Categorical variable with the following options (select one):

- Single blind
- Double blind
• Unspecified
• Other (if other, please specify using text)

**Study diet type (Diet)**
Categorical variable with the following options (select one):
• Weight loss
• Isocaloric/maintenance
• Hypercaloric
• Acute feeding study
• Unspecified
• Other (if other, please specify using text)

**Level of feeding control for dietary intervention (Feedcontrol)**
Categorical variable with the following options (select one):
• Food recommended
• Food partially provided
• All food provided
• Unspecified
• Other (if other, please specify using text)

*Note: In some studies, all food was provided with the exception of a few hundred discretionary calories. In these cases, data extractors were instructed to select ‘All food provided.’*

**Sample size (Sampsize)**
Total sample size (fill-in text variable)
*If study was randomized, extractors were instructed to use number randomized. If unable to do that, extractors were instructed to use total study population or the n presented in the abstract. If the manuscript presented multiple n’s for different sample groups, extractors were instructed to sum and enter the total n in the database.*

**Is there a run-in period? (Runin)**
Categorical variable with the following options (select one):
• Yes
• No
• Unspecified
• Not applicable

Is there a washout period? (Washout)
Categorical variable with the following options (select one):
• Yes
• No
• Unspecified
• Not applicable

Did the administered fiber dose change over the course of the study? (Dosechange)
Categorical variable with the following options (select one):
• Yes
• No

STUDY POPULATION DETAILS

Was the study population adolescents (12-17 years)? (Age_adol)
1 indicates ‘yes’, missing indicates ‘no’
*please note, adolescent population was previously defined as 12-19 years; in 2022, this was revised to be 12-17 years.

Was the study population adults (18+ years)? (Age_adult)
1 indicates ‘yes’, missing indicates ‘no’
*please note, adult population was previously defined as 20+ years; in 2022, this was revised to be 18+.

Was the study population children 3-11 years of age? (Age_child)
1 indicates ‘yes’, missing indicates ‘no’

Was the study population children from 1 year to less than 3 years of age? (Age_baby)
1 indicates ‘yes’, missing indicates ‘no’
Was the study population children less than 1 year of age? (Age_infant)
1 indicates ‘yes’, missing indicates ‘no’

Was the study population another age group (not covered by adolescents, adults, and/or children)? (Age_oth)
1 indicates ‘yes’, missing indicates ‘no’

Study population, mean age in years (Age_mean)
Mean age (fill-in text variable)
*please note that studies where entire population was children <3 years were excluded*

Study population, age range in years (Age_range)
Age range (fill-in text variable)
*please note that studies where entire population was children <3 years were excluded*

Study Population, mean BMI, kg/m^2 (BMI_mean)
Mean BMI of study population, kg/m^2 (fill-in text variable)

Study population, BMI Range, kg/m^2 (BMI_range)
BMI range of study population, kg/m^2 (fill-in text variable)

Was the population diabetic? (Blhealth_diab)
1 indicates ‘yes’, missing indicates ‘no’

Was the population experiencing digestive problems? (Blhealth_digest)
1 indicates ‘yes’, missing indicates ‘no’

Was the population healthy? (Blhealth_healthy)
1 indicates ‘yes’, missing indicates ‘no’

Was the population hyperlipidemic/hypercholesterolemia? (Blhealth_hyperlip)
1 indicates ‘yes’, missing indicates ‘no’

Did the population have hypertension? (Blhealth_hyperten)
1 indicates ‘yes’, missing indicates ‘no’
Did the population have metabolic syndrome? (Blhealth_met)
1 indicates ‘yes’, missing indicates ‘no’

Did the population have some other baseline health status not captured above? (Blhealth_oth)
1 indicates ‘yes’, missing indicates ‘no’
If yes, please specify using text (Blhealth_othspec)

Sex, % male (Sex)
% of male participants (fill-in text variable)

INTERVENTION EXPOSURES (FIBER TYPES)
The database allowed for entry of up to 4 fiber types examined in the manuscript

GENERAL NOTES
- If “combination/mixture” was selected as fiber type, both description and dose variables were completed. For all other fiber types, description variables were left blank, and only dose 1 was completed. In a limited number of cases, dose 1 and 2 may have been completed for a non-combination fiber exposure if the paper detailed more than four exposures, requiring multiple exposures to be grouped for entry.
- In the case where several doses of the same exposure were given (for example, in increasing increments), data extractors were instructed to report the maximum dose at the maximum duration. Please note the earlier question in ‘design’ section indicating whether the administered fiber dose changed over the course of the study.
- If two, different groups were on different doses of the same fiber, it was entered as two exposure groups in addition to the control; vs. if the same group was on different doses of the same fiber during the study, one exposure was reported, and the dose reflected the maximum.
- Exposure doses are per day
- The data allowed for entry of up to 4 fiber exposures examined in the manuscript. The study team addressed cases where more than 4 exposures were examined on a case-by-case basis. In these instances, exposures were logically grouped for entry to preserve all information. See Appendix 3 for an example.

FIBER 1
Fiber 1- Type (Ftype1)
Fiber type (categorical variable with option for text fill in if ‘other’ is selected)
Please note there is an option to specify ‘Combination/mixture’ if appropriate
See Appendix 1 for full list of fiber types included in the database
**Fiber 1-if combination was selected for fiber type, 1**\textsuperscript{st} fiber type in combination (Descrip1\_1)**
Fill in text variable

**Fiber 1-if combination was selected for fiber type, 2**\textsuperscript{nd} fiber type in combination (Descrip1\_2)**
Fill in text variable

**Fiber 1- Dose 1, g (Dose1\_1)**
Exposure dose of fiber intervention, grams unless otherwise specified (fill-in text variable)

\textit{Dose should reflect dose of fiber selected in ‘fiber type’ field above;}  
\textit{If ‘Combination/mixture’ was selected, dose 1 should reflect dose of fiber in ‘Descrip1\_1’ variable above}

**Fiber 1- Dose 2, g (Dose1\_2)**
Exposure dose of fiber intervention, grams unless otherwise specified (fill-in text variable)

\textit{Typically used for combination/mixtures. Dose 2 would, thus, reflect dose of fiber selected in ‘Descrip1\_2’ variable above}

The screen shot of the database below illustrates entry of a ‘Combination/mixture’ fiber type:

![Database Screenshot]

The screen shot of the database below illustrates entry of a single fiber type:
### Fiber 1-Duration of Intervention (Duration1)
Duration of fiber intervention (text fill-in specifying days, weeks, months, as appropriate)

### Fiber 1- How was the fiber administered? (Admin1)
Categorical variable with the following options (select one):
- Diet
- Single food
- Powder
- Tablet
- Beverage
- Combination of foods
- Combination of beverage + foods
- Unspecified
- Test meal

**REPEAT AS ABOVE FOR FIBERS 2-4**

**FIBER 2**

**Fiber 2- Type (Ftype2)**
**Fiber 2-if combination was selected for fiber type, 1^{st} fiber type in combination (Descrip2_1)**
**Fiber 2-if combination was selected for fiber type, 2^{nd} fiber type in combination (Descrip2_2)**
**Fiber 2- Dose 1, g (Dose2_1)**
**Fiber 2- Dose 2, g (Dose2_2)**
Fiber 2- Duration of Intervention (Duration2)
Fiber 2- How was the fiber administered? (Admin2)

FIBER 3
Fiber 3- Type (Ftype3)
Fiber 3- if combination was selected for fiber type, 1st fiber type in combination (Descrip3_1)
Fiber 3- if combination was selected for fiber type, 2nd fiber type in combination (Descrip3_2)
Fiber 3- Dose 1, g (Dose3_1)
Fiber 3- Dose 2, g (Dose3_2)
Fiber 3- Duration of Intervention (Duration3)
Fiber 3- How was the fiber administered? (Admin3)

FIBER 4
Fiber 4- Type (Ftype4)
Fiber 4- if combination was selected for fiber type, 1st fiber type in combination (Descrip4_1)
Fiber 4- if combination was selected for fiber type, 2nd fiber type in combination (Descrip4_2)
Fiber 4- Dose 1, g (Dose4_1)
Fiber 4- Dose 2, g (Dose4_2)
Fiber 4- Duration of Intervention (Duration4)
Fiber 4- How was the fiber administered? (Admin4)

INTERVENTION COMPARATORS
The database allowed for entry of up to 4 comparators examined in the manuscript

GENERAL NOTES
- If the diets were exactly the same except for the fiber intervention, the term ‘matched’ may be used to describe comparator diet
- The comparator variables were all free text variables (fill-in), with the exception of the ‘how administered’ question which was categorical.

COMPARATOR 1
Comparator 1- what was the comparator used in the intervention (Comparator1)
text fill-in, including any available information on comparator (may include food type, brand, food form, etc)
Comparator 1-Dose (Cdose1)
Text fill-in
*Data extractors instructed to specify units and provide dose in grams whenever possible*

Comparator 1-Duration of comparator intervention (Cduration1)
Duration of comparator intervention (text fill-in specifying days, weeks months, as appropriate)

Comparator 1-How was the comparator administered to participants? (Cadmin1)
Categorical variable with the following options (select one):
- Diet
- Single food
- Powder
- Tablet
- Beverage
- Combination of foods
- Combination of beverage + foods
- Unspecified
- Test meal

REPEAT AS ABOVE FOR COMPARATORS 2-4

**COMPARATOR 2**
Comparator 2- what was the comparator used in the intervention (Comparator2)
Comparator 2-Dose (Cdose2)
Comparator 2-Duration of comparator intervention (Cduration2)
Comparator 2-How was the comparator administered to participants? (Cadmin2)

**COMPARATOR 3**
Comparator 3- what was the comparator used in the intervention (Comparator3)
Comparator 3-Dose (Cdose3)
Comparator 3-Duration of comparator intervention (Cduration3)
Comparator 3-How was the comparator administered to participants? (Cadmin3)

**COMPARATOR 4**
Comparator 4- what was the comparator used in the intervention (Comparator4)
Comparator 4-Dose (Cdose4)
Comparator 4-Duration of comparator intervention (Cduration4)
Comparator 4-How was the comparator administered to participants? (Cadmin4)

OUTCOMES

We extracted information on up to 8 outcomes detailed in the manuscript. If more than 8 outcomes were detailed, entry of Vahouny outcomes was prioritized. Non-Vahouny outcomes were included only as space allowed, or in the list of other outcomes (variable outcomes_other).

Extractors were also told to prioritize the central outcomes of the manuscript (for example, those highlighted in the abstract) if more than 8 Vahouny outcomes were examined.

The ‘group’ variables are categorical, identifying the outcome as a Vahouny vs. other type of outcome with categorical choices detailed below. 'V' indicates Vahouny outcome, 'O' indicates other outcome group. If the outcome did not fall into a ‘V’ or ‘O’ outcome group, data extractors could select “Other” and specify using text. See Appendix 4 for a list of outcomes by outcome group.

OUTCOME 1
Outcome examined #1 (Outcome1)
Categorical variable with the following options (select one):
- Appetite regulation
- Bacteria
- Blood pressure
- Blood pressure, diastolic
- Blood pressure, systolic
- Body mass index
- Body weight
- Bowel movements
- Cholesterol (blood), HDL
- Cholesterol (blood), LDL
- Cholesterol (blood), total
- Cholesterol (blood), VLDL
- Constipation
• C-peptide
• Defecation
• Fat distribution
• Fat, body fat
• Fecal weight
• Fecal weight, dry
• Fecal weight, wet
• Fermentation
• Gastric emptying
• Glucose (blood), fasting
• Glucose (blood), postprandial
• Hemoglobin A, glycosylated
• HOMA
• HOMA-IR
• Hypertension
• Insulin
• Insulin (blood), fasting
• Insulin (blood), postprandial
• Insulin sensitivity, EHGU
• Insulin sensitivity, FSVITT
• Insulin sensitivity, IST
• Insulin sensitivity, OGTT
• Laxation
• Microbiota/microflora
• Proinsulin
• Satiety-related hormones
• SCFA production
• Skinfold thickness
• Stool consistency
• Stool retention
• Subjective appetite
• Transit time
• Transit time, bowel
• Transit time, colon
• Transit time, colonic
• Transit time, gastrointestinal
• Transit time, gut
• Transit time, intestinal
• Triglycerides (blood)
• Triglycerides, postprandial
• Waist circumference
• Waist-hip ratio
• Weight loss/gain
• Other (if other, please specify using text)

Outcome is associated with which outcome group of interest? (Group1)
Categorical variable with the following options (select one):
• V: total and LDL cholesterol
• V: postprandial glycemic/insulinemia
• V: blood pressure
• V: fecal bulk/laxation
• V: transit time
• V: modulation of colonic microflora
• V: colonic fermentation/short-chain fatty acid production
• V: weight/adiposity
• V: satiety
• O: lipids
• O: glucose & insulin metabolism
• O: GI symptoms
• O: bone-related outcomes
• Other (if other, please specify using text)

REPEAT AS ABOVE FOR OUTCOMES 2-8
OUTCOME 2
Outcome examined #2  (Outcome2)
Outcome is associated with which outcome group of interest? (Group2)

OUTCOME 3
Outcome examined #3  (Outcome3)
Outcome is associated with which outcome group of interest? (Group3)

OUTCOME 4
Outcome examined #4  (Outcome4)
Outcome is associated with which outcome group of interest? (Group4)

OUTCOME 5
Outcome examined #5  (Outcome5)
Outcome is associated with which outcome group of interest? (Group5)

OUTCOME 6
Outcome examined #6  (Outcome6)
Outcome is associated with which outcome group of interest? (Group6)

OUTCOME 7
Outcome examined #7  (Outcome7)
Outcome is associated with which outcome group of interest? (Group7)

OUTCOME 8
Outcome examined #8  (Outcome8)
Outcome is associated with which outcome group of interest? (Group8)

List of other outcomes, if needed, that did not fit in outcomes 1-8 above (Outcomes_other)
Text field (fill-in)
APPENDIX 1: COMPREHENSIVE LIST OF ALL FIBER TYPES INCLUDED IN DATABASE (FROM EXPOSURES 1-4 COMBINED)

2-O-Fucosyllactose (2-fl)
Agar
Agave Fructans
Alginates
Alphacyclodextrin
Apple Pomace
Arabinogalactan
Arabinoxylan
Arabinoxylan-Oligosaccharides
Atta Mix
Balsamodendron Mukul
Barley Beta Glucan
Barley Bran
Barley Bran Flour
Barley Fiber
Barley Fiber (Hull-Less)
Barley Flour
Barley Grain
Barley Kernels
Barley Tempe
BarleyMax
Bdg (1,3)(1,6)--D-Glycans
Bean Fiber
Beta-Glucans
Birch
Black Rice Germ And Bran Instant Powder (A Commercially Available Product With Thai FDA Approval
Bran
Bran, Added
Buckwheat Flour
Butyrylated High Amylose Maize Starch
Calcium Polycarbophil
Carboxymethylcellulose Gum
Carob Fiber
Carrageenans
Cellulose
Cereal Fiber  
Chia Fiber  
Chia Seed  
Chitin-Glucan  
Chitosan  
Chitosan Oligosaccharide  
Cocoa Bran  
Cocoa Husk  
Coconut Fiber  
Coconut Flour  
Combination Bar: Whey Protein+itf  
Combination/Mixture  
Corn Bran  
Corn Fiber  
Corn Starch/Cornflour/Maize Starch  
Dextrin  
Dietary Fiber  
Durum Wheat  
Einkorn Wheat  
Flax Fiber  
Flaxseed Fiber  
Flour, Citrus  
Flour, Lupin  
Flour, Wheat  
Fructan  
Fructooligosaccharide  
Fructooligosaccharide [1.9 G From Scg And 1.6 G From Fructooligosaccharides]  
Fruit Fiber  
Galactomannan  
Galactooligosaccharide  
Gelidium Elegans  
Germinated Fenugreek Seeds  
Glucomannan  
Grape Pomace
Guava Fruit
Gum
Gum, Acacia
Gum, Arabic
Gum, Carboxymethyl Cellulose
Gum, Carob
Gum, Flaxseed
Gum, Guar
Gum, Karaya
Gum, Locust Bean
Gum, Phgg
Gum, Vegetable
Gum, Xanthan
Healthy Carbohydrate Diet- Formulated With A High Concentration Of Df Based On Ax- And Rs-Enriched Cereal Foods
High Amylose Starch
High Fiber Diet With Guar And Inulin Supplement (60% Partially Hydrolyzed Guar Gum And 40% Inulin Powder)
High Fiber White Rice
High-Amylose Maize Starch
High-Amylose Wheat Refined (Haw-R)
High-Amylose Wheat Wholemeal (Haw-W)
Hydroxypropyl Methylcellulose
Inulin
Inulin-Type Fructans
Irvingia Gabonesis Fiber
Isapgol
Ispaghula
Ispaghula Husk
Konjac Mannan
Lacto-N-Neotetraose (Lnnt)
Legume
Legume Fiber/Bean Fiber
Lignin
Litramine
Low-Amylose Wheat Refined (Law-R)
Low-Amylose Wheat Wholemeal (Law-W)
Lupin Bread
Lupin Kernel Fiber
Lupin Kernel Flour
Methylcellulose
Metlin
Metlos
Native Banana Starch
Non-Starch Polysaccharides
Nopal
Oat B-Glucan
Oat B-Glucan Treat With B-Glucanase
Oat Bran
Oat Fiber
Oat Kernels
Oat Tempe
Oats
Oligofructans
Oligofructose
Oligofructose-Enriched Inulin (Of-In)
Oligosaccharide (Derived From Bovine Milk)
Oligosaccharide (Derived From Bovine Milk) + Probiotics
Oligosaccharides
Orafti® Synergy1
Orange
Orange Fiber
Orange Pomace
Orange Pomace Fiber
Partially Hydrolyzed Guar Gum
Pea Fiber
Pea Hull
Pectin
Plum-Derived Mixed Fiber Supplement, Suprafiber® (Sunsweet Growers Inc.)
Polydextrose
Polyglycoplex (Pgx)
Polysacchariderich Hydrolysate From Saccharomyces Cerevisiae (Lipigo®)
Polysaccharide, Non-Starch
Potato Fiber
Potato Pulp Fibers (Fiberbind)
Promitor Soluble Corn Fiber
Psyllium
Psyllium Hydrophilic Mucilloid (Metamucil)
Psyllium Seed Husk
Pullulan
Pumpkin Seeds
Resistant Dextrin
Resistant Glucan
Resistant Maltodextrin
Resistant Starch
Resistant Starch Type 2
Resistant Starch Type 3
Resistant Starch Type 4
Resistant Wheat Starch
Retrograded Resistant Starch (Rs3)
Rg-I Potato Fibers (Rg-I)
Rice Bran
Rice Fiber
Rice Husk
Rolled Oats
Rye Bran
Rye Fiber
Rye-Based Test Bread+resistant Starch Type 2
Salba-Chia
Salba-Chia Seeds, Ground
Short-Chain Fructooligosaccharide
Soluble Corn Fiber
Soluble Fiber
Soluble Fiber Dextrin
Soluble Gluco Fiber
Sorghum
Soy Cotyledon Fiber
Soy Fiber
Soy Hulls
Soy Kernel Fiber
Soy Polysaccharide
Soybean Oligosaccharide
Soybean Polysaccharide
Sugar Beet Fiber
Sugar Cane Fiber
Tannin-Rich Fiber
Tragacanth
Unifiber + Psyllium
Unripe Banana Flour
Vegetable Fiber
Viscous Fiber
Viscous Fiber Blend
Vitacel
Wheat Bran
Wheat Dextrin
Wheat Fiber
Wheat Germ
Wheat Kernels
Wheat Starch
Whey Protein + Guar Gum
Whole Grain
Whole Wheat Flour
Wholemeal Flour
Wine Grape Pomace Flour Burger
Xylans
Xylo-Oligosaccharide
Yacon Syrup
Yellow Mustard Mucilage
This is intended to help researchers interested in grouping related fibers in a search. Please note, in your search, consider the terms *fiber* and *fibre* interchangeable.

**Potential groupings of search terms for various fiber types:**

<table>
<thead>
<tr>
<th>If you are interested in:</th>
<th>Consider also searching for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley or barley beta-glucans</td>
<td>Barley kernels, barley glucans, β-glucans unspecified, barley flour, barley grain, barley tempe, barley bran</td>
</tr>
<tr>
<td>Oats or oat beta-glucan</td>
<td>Oat bran, oat fiber, oat kernels, oat tempe</td>
</tr>
<tr>
<td>Cellulose and/or modified cellulose-based gums</td>
<td>Cellulose, hydroxypropyl methylcellulose (HPMC), hydroxypropyl cellulose (HPC), methyl cellulose (MC), carboxymethyl cellulose (CMC/cellulose gum), microcrystalline cellulose (MCC)</td>
</tr>
<tr>
<td>Glucomannan</td>
<td>Konjac-mannan</td>
</tr>
<tr>
<td>Gums</td>
<td>Balsamodendron mukul, acacia, tragacanth, karaya, ghatti, locust bean gum, psyllium, guar gum, alginites, agar, carrageenan extracts from plants, seaweed gums, seed gums</td>
</tr>
<tr>
<td>High amylose starch</td>
<td>Resistant starch</td>
</tr>
<tr>
<td>Inulin-type fructans</td>
<td>Fructans, fructooligosaccharide, inulin, oligofructose, oligofructose-enriched inulin, short-chain fructooligosaccharide, agave fructans, FOS, scFOS, Orafti®Synergy1</td>
</tr>
<tr>
<td>Galacto-Oligosachharides</td>
<td>Galacto-oligosaccharides (GOS), scGOS, trans-galactooligosaccharides (TOS)</td>
</tr>
<tr>
<td>Legume fiber</td>
<td>Legume fiber/bean fiber, bean fiber, pea fiber</td>
</tr>
<tr>
<td>Fiber Type</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Locust bean gum</td>
<td>Gum, carob, galactomannan</td>
</tr>
<tr>
<td>Pectin</td>
<td>Sugar beet fiber, sugar cane fiber, beet fiber, citrus peel fiber, apple fiber</td>
</tr>
<tr>
<td>Psyllium</td>
<td>Psyllium seed husk, ispaghula husk, ispaghula, isapgol</td>
</tr>
<tr>
<td>Resistant dextrins</td>
<td>Resistant maltodextrin, resistant dextrin, dextrin, cyclodextrin, wheat dextrin, soluble fiber dextrin</td>
</tr>
<tr>
<td>Resistant starch</td>
<td>Resistant starch, resistant starch type 2, resistant starch type 3, resistant starch type 4, retrograded resistant starch, high amylose maize starch, high amylose starch, green banana starch, raw potato starch, raw tuber starches amylase-resistant starch</td>
</tr>
<tr>
<td>Seaweed gums</td>
<td>Carrageenans, alginates, agar</td>
</tr>
<tr>
<td>Seed gums</td>
<td>Galactomannans: locust bean gum, guar gum, tara gum, fenugreek, cassia gum and others</td>
</tr>
<tr>
<td></td>
<td>Mesquite gum, psyllium seed gum, tamarind kernel powder, flaxseed gum, quince seed gum, oat gum</td>
</tr>
<tr>
<td>Soy bean fiber</td>
<td>Soy cotyledon fiber, soy fiber, soybean, soy hulls</td>
</tr>
<tr>
<td>Wheat bran</td>
<td>Bran, wheat kernels, wheat fiber, wheat bran, bran added, arabinoxylans, arabinoxylan-oligosaccharides, cereal fiber</td>
</tr>
</tbody>
</table>
APPENDIX 3: DATA ENTRY EXAMPLE

The following example is provided to illustrate the complexity of data extraction for some entries. It also serves to illustrate, first-hand, some of the data entry notes described throughout the manual pertaining to capturing more than 4 fibers and approximating doses in grams.

Pubmed ID 19155430

This acute study supplied participants with 7 test beverages containing the 7 products illustrated in the table below. Test beverages were composed of 25g (dry weight) of the test fiber product added to an identical base of sucralose and citric acid (lemonade).

**Table 1. Composition of the Test Products**

<table>
<thead>
<tr>
<th>Test Meal</th>
<th>Product</th>
<th>Average MW (Da)</th>
<th>% Fiber (dsb)</th>
<th>AOAC Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Pullulan</td>
<td>486000</td>
<td>85</td>
<td>991.43</td>
</tr>
<tr>
<td>B</td>
<td>Pullulan &amp; Soluble Corn Fiber-70</td>
<td>233800</td>
<td>77</td>
<td>2001.03</td>
</tr>
<tr>
<td>C</td>
<td>Soluble Corn Fiber-70</td>
<td>1600</td>
<td>70</td>
<td>2001.03</td>
</tr>
<tr>
<td>D</td>
<td>Resistant Starch-60</td>
<td>100000</td>
<td>58</td>
<td>991.43</td>
</tr>
<tr>
<td>E</td>
<td>Resistant Starch-75</td>
<td>8000</td>
<td>78</td>
<td>991.43</td>
</tr>
<tr>
<td>F</td>
<td>Soluble Corn Fiber-70 &amp; Resistant Starch-60</td>
<td>51000</td>
<td>64</td>
<td>2001.03</td>
</tr>
<tr>
<td>G</td>
<td>Soluble Fiber Dextrin</td>
<td>6500</td>
<td>64</td>
<td>2001.03</td>
</tr>
</tbody>
</table>

As the database is able to capture up to 4 exposures, and this study used 7, exposures were logically grouped for entry as indicated in the table below.

In addition, as the % fiber per product was provided, rather than fiber in grams, doses in grams were calculated for entry (indicated in the database using the ~ symbol). Since fibers had to be grouped, the maximum dose was entered for the exposure group as indicated in red. As noted throughout this manual, doses correspond to fiber type selected in the relevant fiber 1-4 exposure fields. Despite the need to group, users would still be directed to this manuscript upon searching for any of the four following fibers examined: pullulan, corn fiber, resistant starch, or dextrin.
<table>
<thead>
<tr>
<th>Exposure 1 Fiber type: Pullulan</th>
<th>% Fiber</th>
<th>Approximated fiber dose (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pullulan</td>
<td>85</td>
<td>~ 21.3</td>
</tr>
<tr>
<td>Pullulan and soluble corn fiber-70</td>
<td>77</td>
<td>~ 19.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exposure 2 Fiber type: Soluble corn fiber</th>
<th>% Fiber</th>
<th>Approximated fiber dose (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble corn fiber-70</td>
<td>70</td>
<td>~ 17.5</td>
</tr>
<tr>
<td>Soluble corn fiber-70 and RS-60</td>
<td>64</td>
<td>~ 16.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exposure 3 Fiber type: Resistant starch</th>
<th>% Fiber</th>
<th>Approximated fiber dose (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistant starch-60</td>
<td>58</td>
<td>~ 14.5</td>
</tr>
<tr>
<td>Resistant starch-75</td>
<td>78</td>
<td>~ 19.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exposure 4 Fiber type: Dextrin</th>
<th>% Fiber</th>
<th>Approximated fiber dose (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble fiber dextrin</td>
<td>64</td>
<td>~ 16.0</td>
</tr>
</tbody>
</table>

Fiber type and dose information entered into the database for exposures 1-4 are identified in red.
O-Bone-Related Outcomes

- Absolute apparent calcium absorption
- Absolute apparent magnesium absorption
- Absolute calcium absorption
- Apparent calcium absorption
- Apparent calcium balance
- Apparent calcium retention
- Apparent copper retention
- Apparent iron absorption
- Apparent iron balance
- Apparent magnesium absorption
- Apparent magnesium balance
- Apparent magnesium retention
- Apparent zinc absorption
- Apparent zinc balance
- Bone alkaline phosphatase (BAP)
- Bone Mineral Content
- Bone mineral density
- Bone turnover
- Calcium absorption
- Calcium absorption efficiency
- Calcium absorption index
- Calcium absorption, urine
- Calcium accretion
- Calcium balance
- Calcium retention
- Calcium specific activity
- Cholesterol (blood), total
- Copper retention
- Fecal calcium excretion
Fecal copper excretion
Fecal iron excretion
Fecal magnesium excretion
Fractional calcium absorption
Iron Absorption
Iron absorption, serum
Iron balance
Iron retention
Iron utilization
Magnesium absorption
Magnesium balance
Magnesium retention
Net calcium absorption
Net magnesium absorption
Net nitrogen absorption
Net phosphorus absorption
Nitrogen balance
N-telopeptides of type I collagen
Parathyroid hormone
Phosphorus balance
Rate of total bone turnover (Vt)
Relative apparent calcium absorption
Relative apparent magnesium absorption
Serum calcium concentration
Serum copper concentration
Serum C-telopeptide of type I collagen (CTX)
Serum iron concentration
Serum magnesium concentration
Serum osteocalcin
Serum phosphorus concentration
Serum procollagen I carboxyterminal propeptide (PICP)
Serum zinc concentration
Stronium retention
Stronium:Calcium Retention Ratio
Total serum alkaline phosphatase
True calcium absorption
True magnesium absorption
Urinary calcium excretion
Urinary chromium excretion
Urinary copper excretion
Urinary deoxypyridinoline cross-links
Urinary deoxypyridinoline cross-links (DPD)
Urinary hydroxyproline/creatinine ratio (OHPr:Cr), rati
Urinary iron excretion
Urinary magnesium excess
Urinary magnesium excretion
Urinary phosphorus excretion
Urinary phosphorus excretion
Urinary potassium excretion
Urinary pyridinoline
Urinary sodium excretion
Urinary zinc excretion
Vitamin D
Zinc balance
Zinc retention

**O-GI symptoms**
- Abdominal pain
- Adverse events
- Adverse reactions
- Bloating
- Constipation
Diarrhoea
Digestive symptoms
Flatulence
Gastrointestinal intolerance
Gastrointestinal symptoms
Gastrointestinal tolerability
Gastrointestinal tolerance
GI Discomfort
GI side effects
GI symptoms
GI tolerability
GI tolerance
GI tolerance symptoms
GIQIL Score
Hydration
IGSQ index scores
Side effects
Tolerance
Total gastrointestinal side effects

**O-Glucose & insulin metabolism**

Blood glucose and insulin
C-peptide
C-peptide-to-insulin molar ratio
Day-long average glucose
Day-long glucose and insulin
Fasting endogenous glucose turnover
Fasting glucose and insulin
Forearm muscle glucose clearance during MTT
GI
GIP
GL
GLP-1
GLP-1, plasma
Glucagon
Glucagon-like peptide-1
Glucose (blood), fasting
Glucose (blood), postprandial
Glucose (urine, 24 hr)
Glucose kinetics
Glucose Oxidation
Glucose, insulin, insulin resistance
Glucose-dependent insulinoctropic polypeptide (GIP)
Glycemic Index
Glycemic load
Hemoglobin A, glycosylated
HOMA
HOMA%S and HOMA%B
HOMA-IR
Insulin
Insulin (blood), fasting
Insulin Sensitivity
Insulin sensitivity, EHGU
Insulin sensitivity, IST
Insulin sensitivity, M/I ratio
Insulin sensitivity, MTT (Meal Tolerance Test)
Insulin sensitivity, OGTT
Insulin:glucose ratio
insulinemic index
Plasma glucose concentration
postprandial GIP
Postprandial Glucose/Insulin ratio (G/I)
Whole-body glucose disposal

**O-Lipids**
- Adiponectin
- Apo A-I
- Apo B
- Apo B concentrations; apo A-I concentrations
- ApoA-1
- ApoB
- Apolipoprotein A1
- Apolipoprotein A1 and B and lipoprotein (a)
- Apolipoprotein A1 and B levels
- Apolipoprotein A-I; lipoprotein(a); VLDL
- Apolipoprotein B
- Apolipoprotein B:A-I
- Beta-lipoprotein
- Cholesterol (blood), HDL
- Cholesterol (blood), VLDL
- Cholesterol ester transfer protein
- Cholesterol ester transfer protein activity
- Cholesterol precursors
- Chylomicron triglyceride concentrations
- Free fatty acids
- Ghrelin
- HDL and triglycerides
- HDL cholesterol; total cholesterol/HDL cholesterol ratio
- HDL/LDL ratio
- HDL-C, HDL2-C, HDLC3-C, B-apoprotein
- HDL-C, LDL-C/HDL-C, TG
- HDL-C, TG
- HDLC, VLDLC, TG
HDL-C; triacylglycerol
HDL-cholesterol, triglyceride
Isotopic cholesterol ratio and concentration
LDL oxidation
LDL/HDL cholesterol ratio
LDL/HDL ratio
LDL: HDL ratio
LDL:HDL cholesterol ratio
LDL- apo B
LDL-C:HDL-C
Lecithin-cholesterol acyltransferase
Lipoprotein a
Long-term lipid metabolism
NEFA
Non-essential fatty acids, postprandial
Nonesterfied fatty acids (NEFA)
Oxidized LDL
Plasma triacylglycerol
Postprandial lipids: TG, RLP-C
Post-prandial lipids: VLDL, FFA, LDL
Ratio of LDL to HDL
Serum HDL-cholesterol, HDL/LDL-chol. ratio
TC/HDL-C ratio, LDL-C/HDL-C ratio
Total cholesterol/HDL-C
Total cholesterol: HDL ratio
Total:HDL ratio
Triacylglycerol
Triglyceride, HDL cholesterol
Triglycerides (blood)
Triglycerides, HDL, apolipoprotein A, apolipoprotein B,
Triglycerides, HDL-C, ratio HDL/TC
Triglycerides, postprandial
Triglycerides; VLDL

**V- Blood pressure**
- Blood pressure
- Blood pressure, diastolic
- Blood pressure, systolic

**V- Colonic fermentation/SCFA production**
- 4-methylphenol concentration
- Acetate
- Branched chain fatty acids
- Breath H2
- Breath H2 production
- Breath hydrogen
- Breath hydrogen excretion
- Butyrate
- Butyrate, propionate, acetate
- Colonic pH
- Equol Production
- Faecal pH
- Fecal butyrate
- Fecal pH
- Fecal SCFA excretion
- Fermentation
- Microbiota/microflora/bacteria
- Monosaccharides & oligosaccharides in faecal samples
- Propionate
- SCFA production
- Stool pH
- Total fecal SCFA excretion
## V- Fecal bulk/laxation

- Bowel movement frequency
- Bowel movements
- Children with <3 BMs
- Constipation
- Cutaneous electrogastography (EGG) for gastric activity
- Daily stool frequency
- Defecation
- Defecation frequency
- Faecal pH
- Fecal bile acids
- Fecal consistency
- Fecal frequency
- Fecal incontinence
- Fecal moisture
- Fecal moisture content
- Fecal output
- Fecal pH
- Fecal weight
- Fecal weight, dry
- Fecal weight, wet
- Frequency and volume of bowel habit
- Frequency of BMs/wk
- Frequency of defecation
- Laxation
- Stool concentrations of fatty acid soaps and calcium
- Stool consistency
- Stool frequency
- Stool output
- Stool output and defacation frequency
Stool output and stool water output
Stool retention
Stool size
Stool volume
Straining/pain during stool passage
Total fecal output
Transit time
Transit time, colon

**V- Modulation of colonic microflora**

- Fecal bile acids
- Fecal pH
- Fecal water pH
- Fermentation
- Microbiota/microflora/bacteria
- pH
- Stool pH

**V- Postprandial glycemia/insulinemia**

- Acute insulin response
- C-peptide
- Glucose (blood), fasting
- Glucose (blood), postprandial
- Glucose effectiveness
- Hemoglobin A, glycosylated
- Insulin (blood), fasting
- Insulin (blood), postprandial
- Insulin sensitivity, FSVITT
- Insulin sensitivity, IST
- Insulin sensitivity, OGTT
- Interstitial glucose response
V- Satiety
Appetite regulation
Consumption of Fiber, Energy and Macronutrients
Daily energy intake
Dietary intake
Dietary intake
Energy intake
Energy intake at lunch
Fiber and energy intake
Food intake
Free-living intake
Hunger rating
Nutrient intake
Nutritional intake
Satiety
Satiety-related hormones
Subjective appetite
Total daily EI
Total Energy Intake
Total energy intake from breakfast and lunch

V- Total and LDL cholesterol
Cholesterol (blood), LDL
Cholesterol (blood), total

V- Transit time
Bowel movements
Defecation
Gastric emptying
Transit time
Transit time, bowel
Transit time, colon
Transit time, colonic
Transit time, gastrointestinal
Transit time, gut
Transit time, intestinal
Viscosity

V- Weight/adiposity

Android mass
Anthropometric measurements (% Body Fat, Total fat mass
Appetite regulation
BMI z score
Body composition
Body fat
Body mass index
Body weight
Fat distribution
Fat, body fat
Hip circumference
Infant weight gain rate
Intrahepatocellular lipid
Intramyocellular lipid
Lean Body Mass
Muscle mass
Satiety-related hormones
Skinfold thickness
Subcutaneous fat area
Trunk fat
Visceral fat area
Waist circumference
Waist circumference, subcutaneous fat area
Waist-hip ratio
Weight loss/gain

Other outcomes (from text fill in for variables “outcome1” through “outcome8”) and associated group (“group1” through “group8”)

**Anthropometric measurements**

- Anthropometric measurements (weight, length and head circumference)
- Head circumference
- Length

**Arterial stiffness**

- Arterial stiffness (PWV)

**Atopic dermatitis**

- Atopic dermatitis

**Bile acid kinetics**

- Bile acid kinetics

**Bile acids**

- Bile acid concentrations

**Cholesterol absorption and synthesis**

- Cholesterol absorption and synthesis

**Coagulation factor**

- Factor VII

**Colic**

- Colic

**Diet-induced thermogenesis**

- Diet-induced thermogenesis

**Digestion**

- Cholecystokinin

**Fecal composition**

- Fecal bile acid output

**Hydration**
Hydration

**Immune system**
- Antibiotic prescriptions
- Infections

**Infant growth parameters**
- Anthropometric measurements (weight, length and head circumference)
- Growth
- Head circumference
- Length growth rate

**Infection symptoms**
- Lymphocyte T CD3+
- Total IgE

**Inflammation**
- Inflammatory markers

**Micronutrient levels**
- Iron

**Urinary measurements**
- Sodium, potassium, creatine in urine

**Examples of outcomes with no assigned outcome group**
It is recommended that database users, based on their research aims, consider if and how other outcomes (non-Vahouny/non-bone) may be categorized into new or already existing categories.
- Anemia
- C-reactive Protein
- Fecal BCFA
- Fecal NH3
- Fecal p-cresol
- Fecal Phenols
- Hemoglobin A, glycosylated
- Pain during defecation
Plasma intestinal fatty acid-binding protein (biomarker)
Respiratory tract infections
Stool consistency
Subjective appetite
Triglycerides (blood)
Virulence and toxin genes of pathogens
Waist circumference

Please note, the additional variable ‘list of other outcomes (if needed)’ exists to capture outcomes in literature where the number of outcomes exceeded the 8 database fields. This is a free-text field.