

**BBMRI-ERIC**

Biobanking and  
BioMolecular resources  
Research Infrastructure

# **MIABIS** Minimum Information **A**bout **B**iobank data **S**haring

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**“MIABIS represents the minimum information required to initiate collaborations between biobanks. The aim is to facilitate the reuse of bio-resources and associated data by harmonizing the information.”**

Guideline

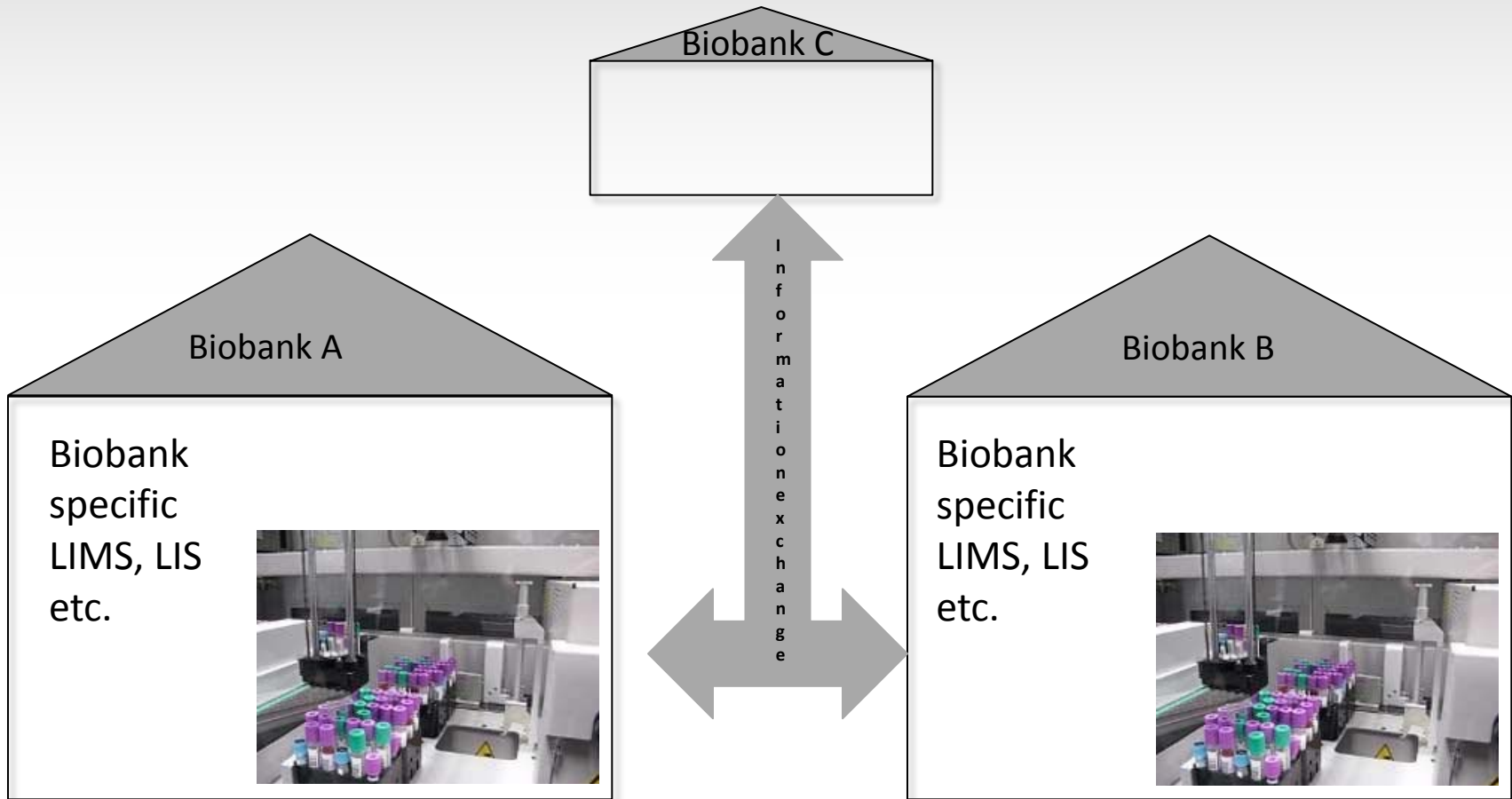


# Scope

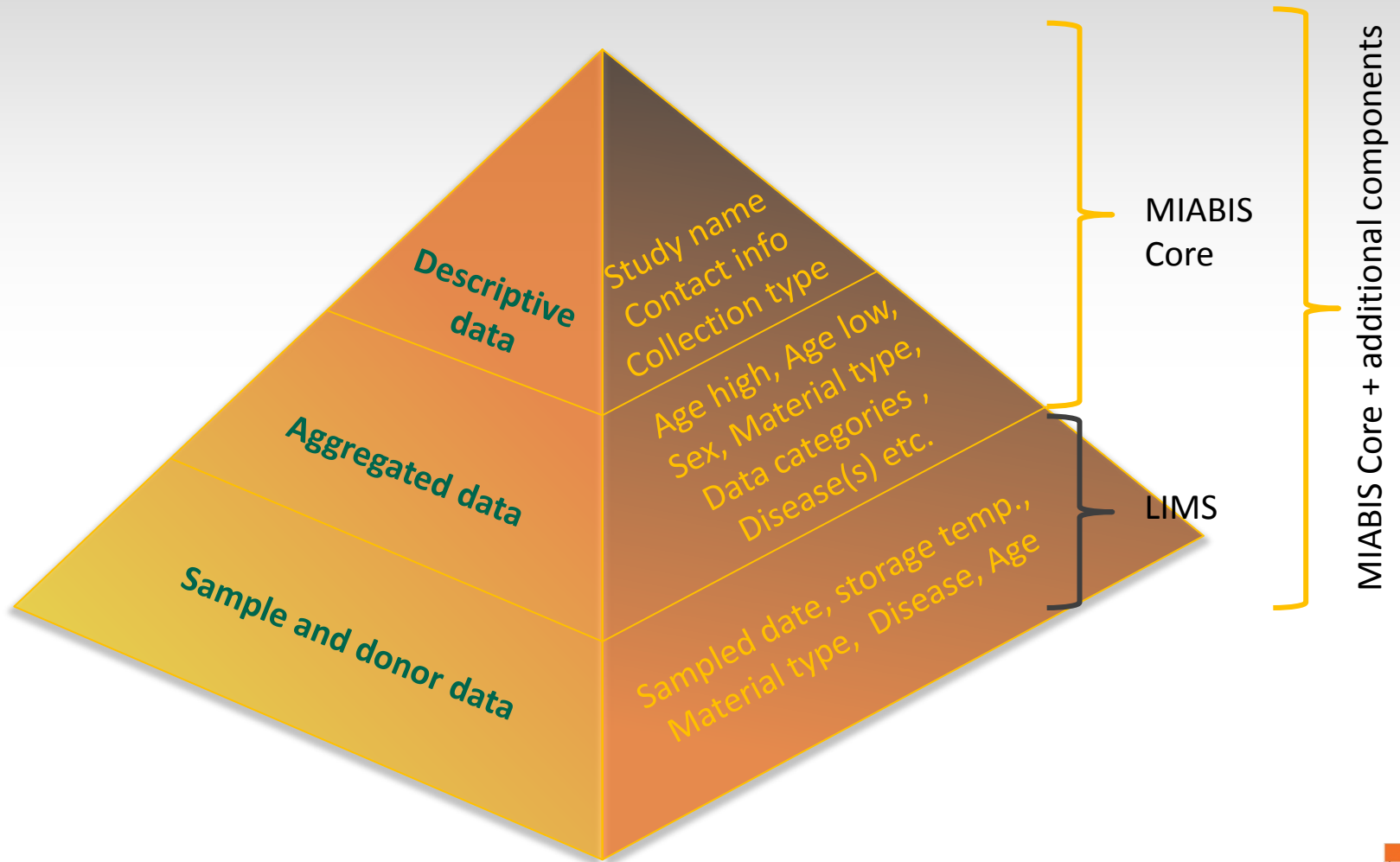
- Facilitate communication
- Stimulate research collaborations
- More efficient research
- Establish biobanks as a domain in the field of Life Science



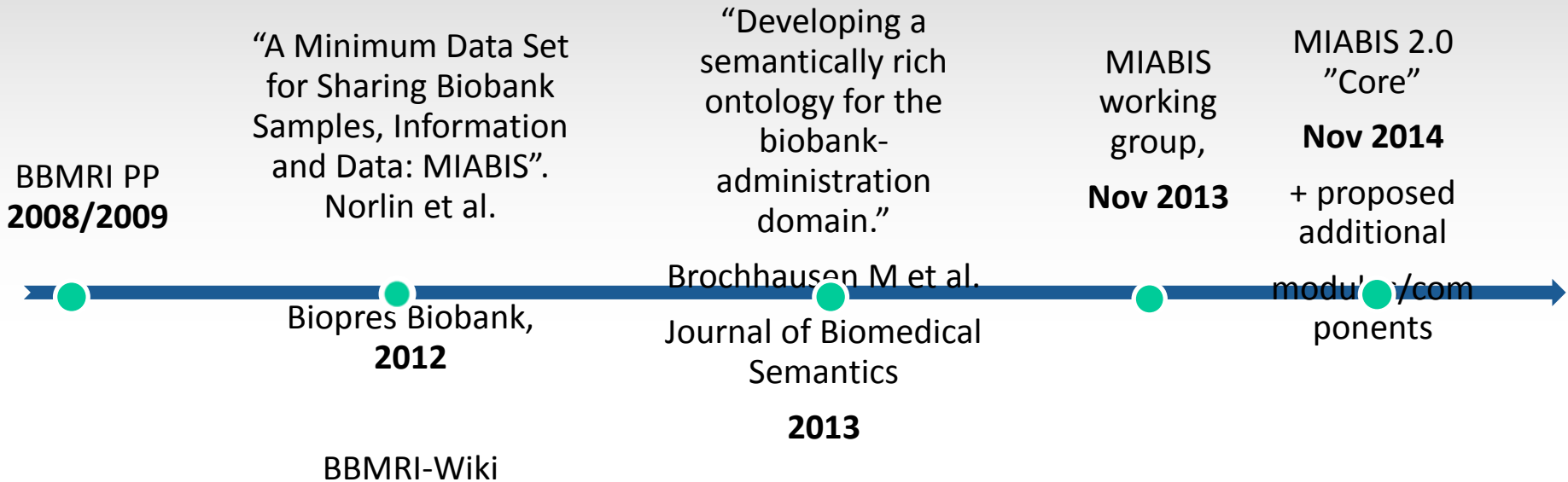
# External vs. Internal Biobank Information



# Biobank Information Data Pyramid



# History



## Biopreservation and Biobanking

### Most Read Articles

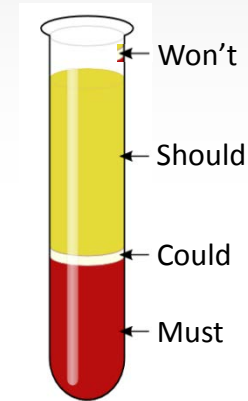
1. **A Minimum Data Set for Sharing Biobank Samples, Information, and Data: MIABIS** 📄  
Loreana Norlin, Martin N. Fransson, Mikael Eriksson, Roxana Merino-Martinez, Maria Anderberg, Sanela Kurtovic, Jan-Eric Litton  
*Biopreservation and Biobanking*. August 2012: 343-348.  
[Abstract](#) | [Full Text PDF or HTML](#) | [Reprints](#) | [Permissions](#)



# Work process and voting procedure

## For decision making:

- MoSCoW prioritization
- Participatory & collaborative
- Agreement Seeking
- Process Oriented



# MIABIS 2.0 Core

## Data describing "Biobank"

MIABIS 2.0 » Data de

### Definition

We choose to present  
Apr 9. doi: 10.1038/ε

1. "Collections, reposi  
as biomolecular resou
2. "An organized colle

Attribute Code	Attri Na
MIABIS-01	Bioban
MIABIS-02	Bioban Acrony
MIABIS-03	Bioban Name
MIABIS-04	URL
MIABIS-05	Juristic Person

## Data describing "Sample collection"

MIABIS 2.0 » Data desc

### Definition

A proper definition for th  
9. doi: 10.1038/ejhg.20  
described by Fransson M

1. "A collection of sampl
2. "A number of samples

Attribute Code	At
MIABIS-09	Samp
MIABIS-10	Samp Acron
MIABIS-11	Samp Name
MIABIS-12	Descr
MIABIS-13	...

## Data describing "Study"

MIABIS 2.0 » Data describing "Study"

### Definition

A proper definition for the term "Study" in the context of biobanks is difficult to find in literature (Fransson I 10.1038/ejhg.2014.45). We choose to present the NCI definition for Study".

"A detailed examination, analysis or critical inspection of a subject designed to discover facts about it" (NCI

Attribute Code	Attribute Name	Allowed Values	
MIABIS-23	Study ID	Text	The unique ID or acronym of the study
MIABIS-24	Study name	Text	The name of the study in English
MIABIS-25	Study Description	Text	A description of the study aim. Recommendation max. 2000 ch
MIABIS-26	Principal Investigator	Text	The name of the person responsible for the study e.g. the princ



# Biobank Component

Attribute Code	Attribute Name	Allowed Values	Description
MIABIS-01	Biobank ID	Text	Textual string of letters starting with the country code (according to standard ISO1366 alpha2) followed by the underscore "_" and post-fixed by a biobank ID or name specified by its juristic person (nationally specific)
MIABIS-02	Biobank Acronym	Text	Textual string of short name in use for the biobank. If applicable
MIABIS-03	Biobank Name	Text	Textual string of letters denoting the name of the biobank in English
MIABIS-04	URL	Text	Textual string of letters with the complete http-address for the biobank URL
MIABIS-05	Juristic Person	Text	Textual string of letters denoting the juristic person e.g. a university, concern, county council etc. for the biobank
MIABIS-06	Country	Text	ISO-standard (3166 alpha2), two letter code for the country of the biobank
MIABIS-07	Contact Information	Structured data	Contact information to the contact person for the biobank <a href="#">MIABIS-07</a>
MIABIS-08	Biobank Description	Text	Textual string of letters with a description about the biobank in English.

# Structured Data

## Contact information: MIABIS-07

Attribute Code	Attribute Name	Allowed Values	Description
MIABIS-07A	First name	Text	Textual string of letters denoting the first name of the Contact
MIABIS-07B	Last name	Text	Textual string of letters denoting the last name of the Contact
MIABIS-07C	Phone	Formatted Text	Phone to the Contact including international call prefix
MIABIS-07D	Email	Text	Email address of the Contact person
MIABIS-07E	Address	Text	Street name and street number or PO Box of the Contact person
MIABIS-07F	ZIP	Text	ZIP of the Contact person
MIABIS-07G	City	Text	City of the Contact person
MIABIS-07H	Country	Text	Country of the Contact person

## Disease: MIABIS-21

Attribute Code	Attribute Name	Allowed Values	Description
MIABIS-21A	Disease Ontology	Text	Name of ontology used for disease. Can be several values e.g. ICD, SNOMED
MIABIS-21B	Disease Ontology Version	Text	Version of selected ontology for disease e.g. ICD-9, ICD-10, SNOMED-CT
MIABIS-21C	Disease Ontology Code	Text	Disease code from the selected Disease Ontology Version e.g. C61
MIABIS-21D	Disease Ontology Description	Text	Description from the selected Disease Ontology Code e.g : Malignant neoplasm of prostate
MIABIS-21E	Disease Free Text	Text	Explanation about disease or symptom in case of unknown disease or insufficient information

# Sample Collection Component

Attribute Code	Attribute Name	Allowed Values	Description
MIABIS-09	Sample Collection ID	Text	Sample Collection ID that also links the sample collection to the hosting biobank or study
MIABIS-10	Sample Collection Acronym	Text	Short name in use for the sample collection
MIABIS-11	Sample Collection Name	Text	The name of the sample collection in english
MIABIS-12	Description	Text	A description of the sample collection. Recommendation max. 2000 char.
MIABIS-13	Sex	Text list	The sex of the individuals in the sample collection. Can be one or more of the following values: Male, Female, Unknown, Undifferentiated <a href="#">MIABIS-13</a>
MIABIS-14	Age Low	Integer	Age of youngest sample donor at time of inclusion
MIABIS-15	Age High	Integer	Age of oldest sample donor at time of inclusion
MIABIS-16	Age Unit	Text list	Unit defining Age Low and Age High. Can be one of the following values: years, weeks, days
MIABIS-17	Data categories	Text list	The data categories from which data is available. Can be several values <a href="#">MIABIS-17</a>
MIABIS-18	Material type	Text list	The biospecimen saved from a biological entity for propagation e.g. testing, diagnostics, treatment or research purposes. Can be several values <a href="#">MIABIS-18</a>
MIABIS-19	Storage temperature	Text list	The long term storage temperature at which the samples are stored after preparation. Can be several values: <a href="#">MIABIS-19</a>
MIABIS-20	Collection type	Text list	The type of the sample collection. Can be several values <a href="#">MIABIS-20</a>
MIABIS-21	Disease	Structured data	The disease of main interest in the sample collection, if any. Can be several values as defined in <a href="#">MIABIS-21</a>
MIABIS-22	Contact information	Structured data	Contact information to the contact person for the sample collection <a href="#">MIABIS-07</a> and <a href="#">MIABIS-22</a> of the PI

# Study Component

Attribute Code	Attribute Name	Allowed Values	Description
MIABIS-23	Study ID	Text	The unique ID or acronym of the study
MIABIS-24	Study name	Text	The name of the study in English
MIABIS-25	Study Description	Text	A description of the study aim. Recommendation max. 2000 char.
MIABIS-26	Principal Investigator	Text	The name of the person responsible for the study e.g. the principal investigator
MIABIS-27	Contact information	Structured data	Contact information to the contact person for the study <a href="#">MIABIS-07</a> and <a href="#">MIABIS-22</a>
MIABIS-28	Study design	Text list	The design of the study. Can be one or several values: <a href="#">MIABIS-20</a>
MIABIS-29	Sex	Text list	The sex of the study participants. Can be one or more of the following values: Male, Female, Unknown, Undifferentiated <a href="#">MIABIS-13</a>
MIABIS-30	Age Low	Integer	Age of the youngest study participant at time of inclusion
MIABIS-31	Age High	Integer	Age of the oldest study participant at time of inclusion
MIABIS-32	Age Unit	Text list	Unit defining Age Low and Age High. Can be one of the following values: years, months, weeks, days
MIABIS-33	Data categories	Text list	The type of data that is associated with the samples in the study. Can be several values <a href="#">MIABIS-17</a>
MIABIS-34	Material type	Text list	The biospecimen saved from a biological entity for propagation e.g. testing, diagnostics, treatment or research purposes. Can be several values <a href="#">MIABIS-18</a>
MIABIS-35	Total number of participants	Integer	Total number of individuals recruited to the study
MIABIS-36	Total number of sample donors	Integer	Total number of individuals with biological samples in the study
MIABIS-37	Inclusion criteria	Text list	Information on type of parameters that determine which individuals will become study participants. Can be one or several of the following values: health status, hospital patient, use of medication, gravidity, age group, familial status, sex, country of residence, ethnic origin, population representative sampling, lifestyle/exposure, other

# Additional Components

Additional components (currently under proposal, NOT FINAL):

- Data describing Samples
- Data describing Sample Quality
- Data describing -OMICS
- Data describing Participant
- Data describing Rare diseases

# Current Implementations of MIABIS

- The BBMRI-NL catalogue
- The BBMRI.se Sample collection register
- BBMRI.at
- TMF Portal for Registries
- EUDAT (B2Share)
- RD-Connect
- BiobankCloud
- BioMedBridges
- IARC (BC-Net)
- Institutions in the UK, France, Greece



# Future Tasks

- Continue developing additional components
- Work on the governance of MIABIS
- Collaborate with LIMS companies to implement MIABIS
- Harmonize with other efforts

Global activity in harmonizing the terms and definitions used in biospecimen collection, biobanking, and data sharing is occurring in the ISO TC 276 TG2 arena – how can we participate?

- Publish MIABIS 2.0
- OMIABIS based on MIABIS 2.0
- Biobank interoperability
- Establish MIABIS as the de facto standard within BBMRI-ERIC



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Martin Fransson,  
Michaela Mayrhofer,  
Klaus Kuhn, Jan-Eric Litton

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- Home
- Find Sample Collections
- Help ?

External Links

- BBMRI.se Wiki
- Catalog of European Biobanks (User: guest, Password: catalogue)
- KI Biobank studiekatalog
- Svensk Nationell Datatjänst (SND)
- Molecular Methods Database
- Tubafrost Central Database
- NordCDB
- Deutsches Biobanken-Register
- EuroBioBank
- NCI Biospecimen Research Database
- Danish National Biobank
- P3G

19/11/2012

## Welcome to the BBMRI.se Register!

This website is intended to help researchers initiate collaborations. Here you can find information about sample collections containing human biological material as well as survey and register data associated with the donors. For further information, contact the responsible people for each sample collection.

Total number of donors: 1150855



# MIABIS based catalogs (examples)

Choose a dataset:

Search data values

Data item filters

country: (NL) ✕

Data item selection

Select all Deselect all

- biobank\_ID*
- biobank\_name*
- accronym*
- description*
- website*
- juristic\_person*
- country*
- contact\_person*

biobank_ID	biobank_name	accronym	description	website
AGORA	AGORA		3000 child-parent trios, From +/- 500 hypospadi...	
BIG	BIG (Brain Imaging Genetics)		MRI available	
DCS	Doetinchem Cohort Study		Population based cohort, baseline 1987-1991, fo...	
EPIC-NL	EPIC-NL		Prospective cohort, follow up cancer, CVD, type...	
EPOZ	EPOZ			
HEBON	HEBON		Prospective cohort, family-based	
Hippocrates	Hippocrates		NT and HT individuals, 24-hour BP, hormonal sta...	
LRGP	LRGP		Prospective cohort	
LifeLines	LifeLines	LifeLines		http://lifelines.net
NBS	Nijmegen Biomedische Studie (NBS)			http://www.nijmegenbiomedischestudie.nl
POPS	POPS		Prospective cohort	
Prevend	Prevend	Prevend	Prevention of Renal and Vascular Endstage Disease	http://www.prevend

12 items found

BBMRI-NL (MOLGENIS) to evaluate the MIABIS recommendation