



Bundesinstitut
für Bevölkerungsforschung

Gemeinsam forschen für eine gesündere Zukunft

**NA
KO**

GESUNDHEITS-
STUDIE ■■■

The NAKO 200.000 Data Freeze – Review and Perspectives

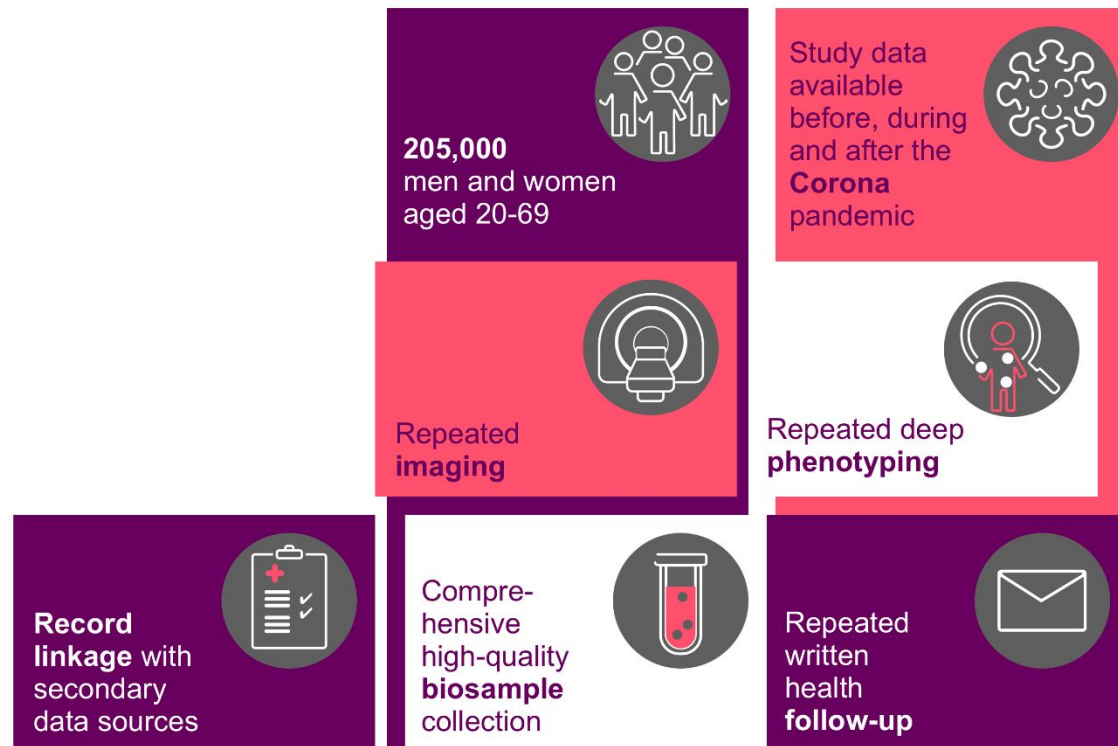
Ronny Westerman, Andrea Werdecker, Ulrich Mueller

**Competence-Center Mortality-Follow-Up, German National Cohort (GNC)
at Federal Institute for Population Research, Wiesbaden, Germany**

**Gefördert vom Bund,
den Ländern und der
Helmholtz-Gemeinschaft**

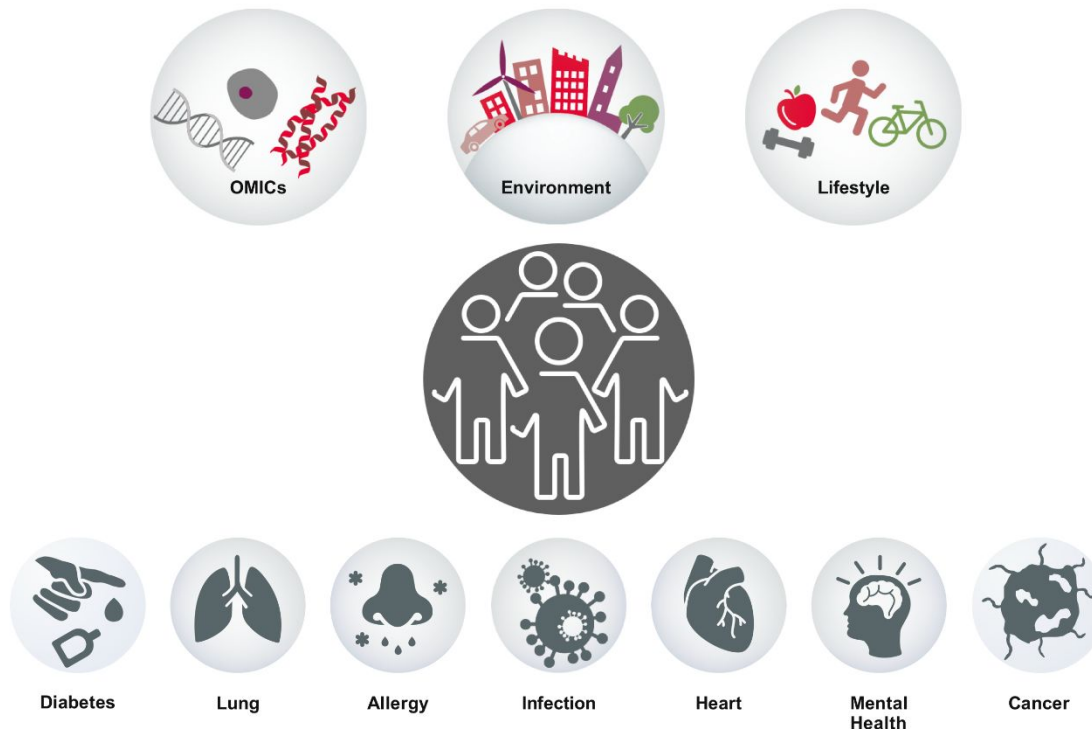


NAKO at a glance



Largest health study in Germany

➔ Objectives



Identify pathways linking lifestyle and environmental risk factors to disease

Understand geographic and socioeconomic disparities in health & disease

Develop risk prediction models for personalized prevention

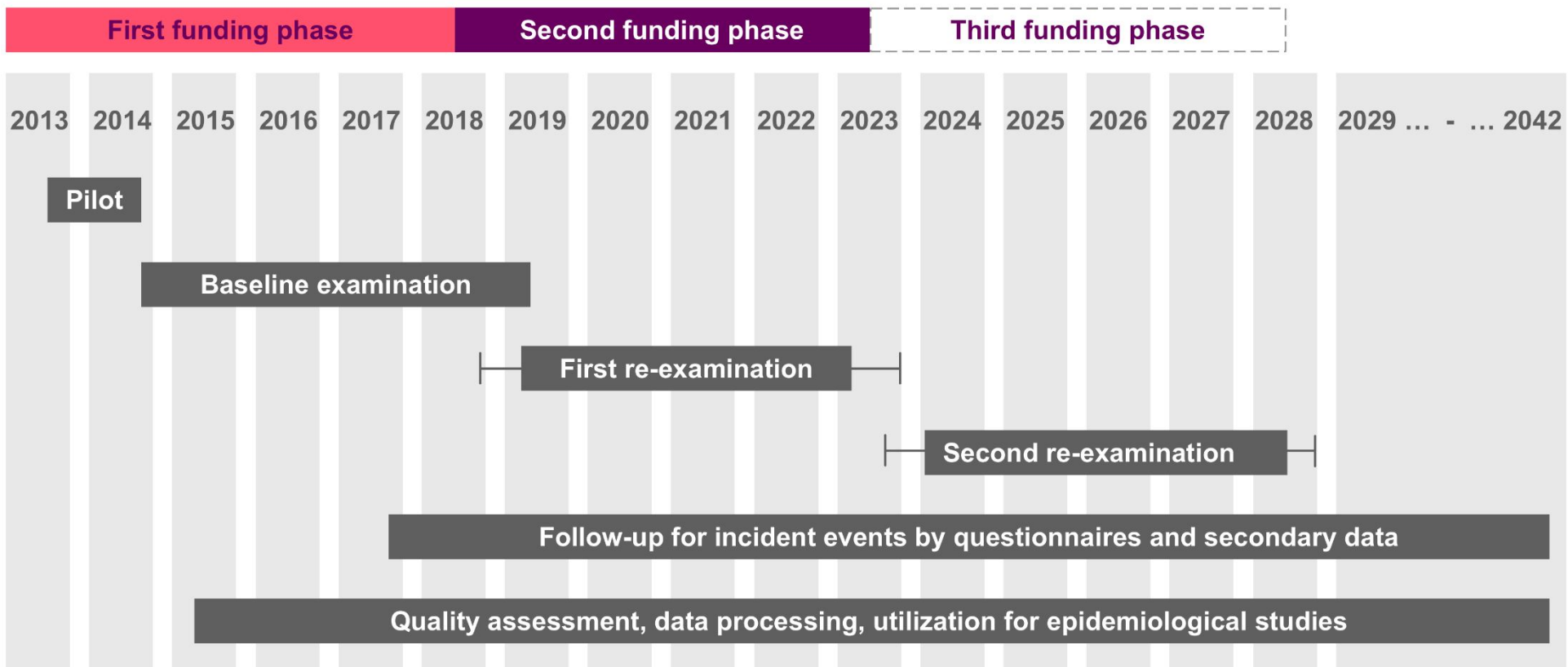
Evaluate markers and tools for early detection of diseases

➔ Collected data

Data

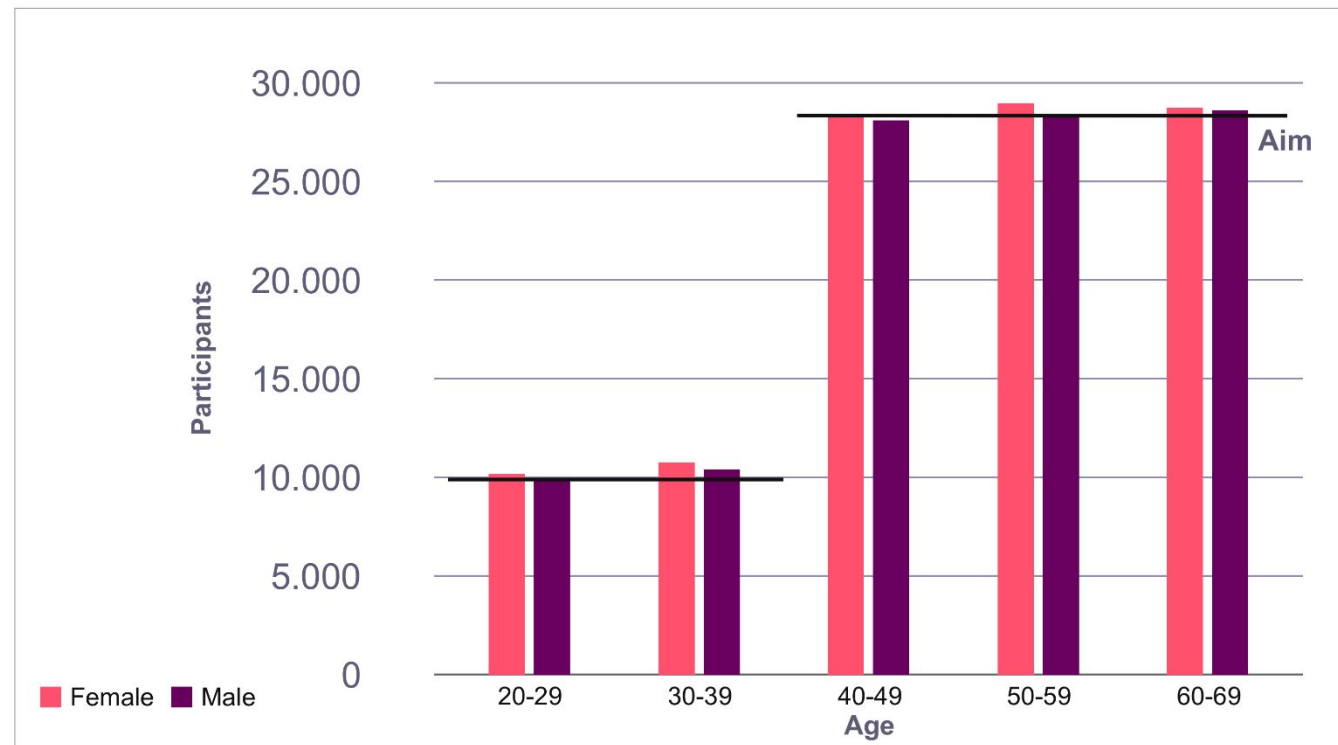


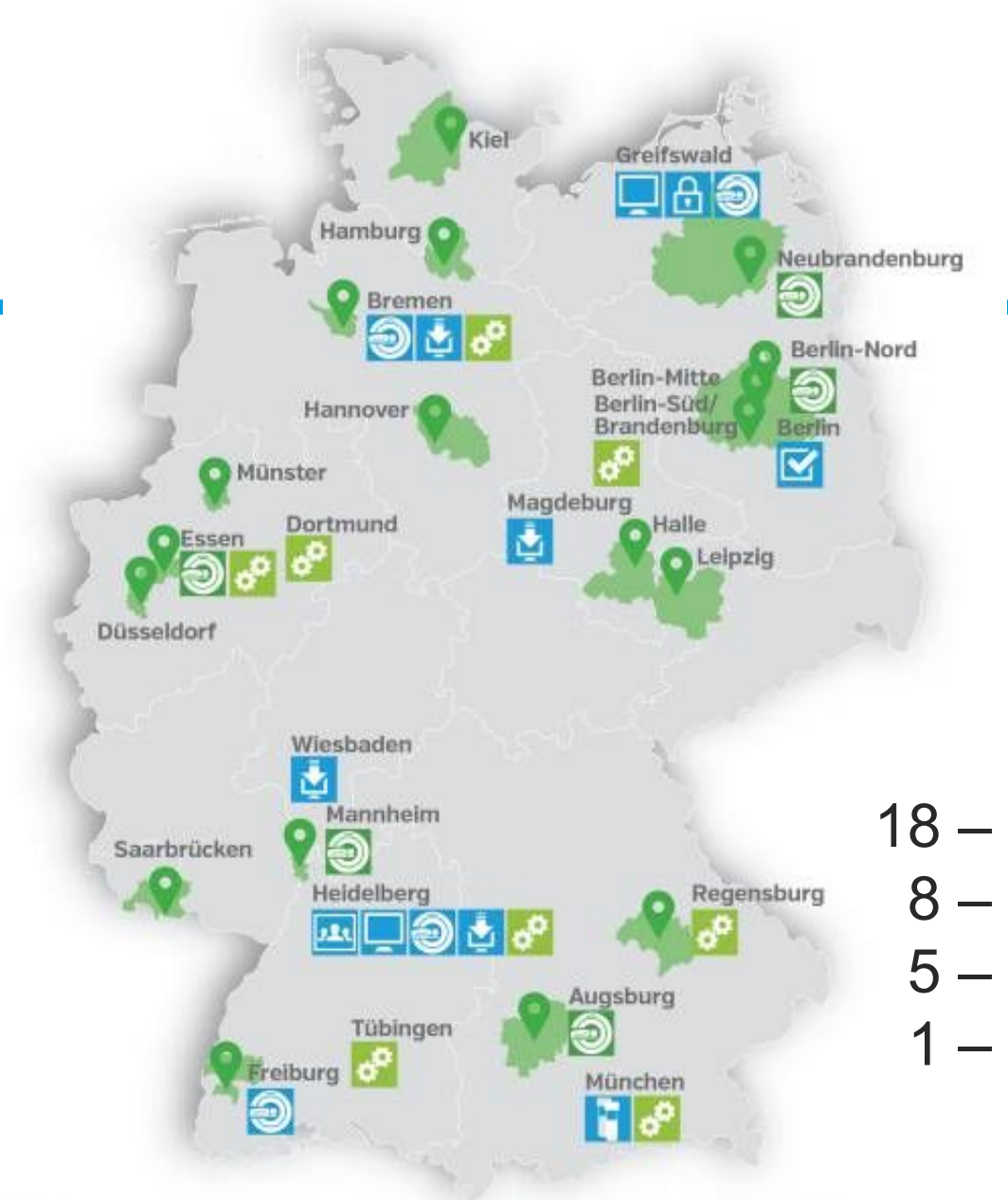
Timeline



Study design

Age and sex distribution





- 18 – Study Centres
- 8 – Competence Units
- 5 – MRI Centres
- 1 – Central Biorepository

Study Centre	Central executive office	Data integration Centre	External Quality Assurance
MRI centre	Central Biorepository	Independent Trust Centre	Competence Units
Study region	MR Imaging Core	Competence Network Secondary and Registry Data	Mortality Follow-up Wiesbaden

➔ Biorepository

Central biorepository

Central biosample storage facility at
Helmholtz Munich

Two highly innovative storage systems

- Semi-automated -80°C storage
- Fully-automated -180°C storage

Storage of 73 % of NAKO biosample
aliquots (~ 21 millions)



Biorepository

Biosample storage

Central biorepository

Baseline

- 205,000 participants
- 84 aliquots of 116 per participant
- 15.2 Mio of 21.4 Mio

1st Re-examination

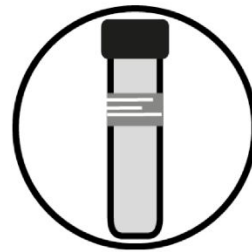
- 135,000 participants
- 26 aliquots of per participant
- 3.5 Mio of 5.1 Mio

2nd Re-examination

- 85,000 participants
- 35 aliquots of 51 per participant
- 2.8 Mio of 4.1 Mio



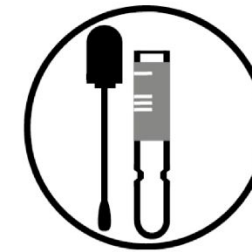
Urine



Serum | Plasma
Erythrocytes
Buffy coat | RNA



Saliva



Nasal swabs

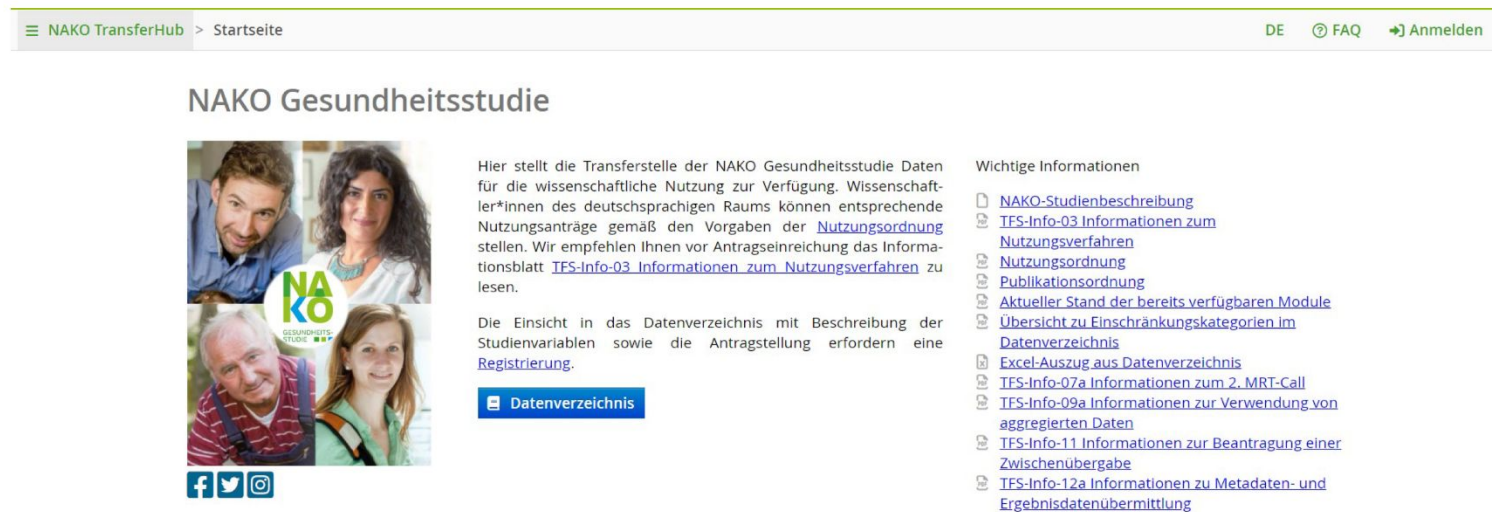


Stool

	Modules	Number of participants	Completeness of modules in %
Level 1	7-day accelerometry*	89,949	121
	Anthropometry	202,617	99
	Blood pressure	204,162	100
	Cognitive function	196,146	96
	Hand grip strength	201,972	98
	Spirometry	189,583	92
	Tooth count	189,086	92
	Vascular Explorer	194,589	95
	Level 2**	3D echocardiography	41,04
AGE Reader		46,585	82
Electrocardiography		50,817	89
Nitric oxide in exhaled		41,895	73
Olfactory test		54,827	96
Purdue pegboard test		57,209	100
Retinal photography		49,193	86
SOMNOWatch		17,654	31
Visual acuity test		51,364	90
Ultrasound of visceral		47,919	84
1 of 3	Angle chair	22,002	89
	Examination of hand	23,306	94
	Ergometry	11,186	79
	Oral examination	20,814	98
Biosamples	Blood	203,193	99
	Nasal swab	192,519	94
	Saliva	191,132	93
	Stool****	75,242	73
	Urine	200,927	98
	Oral glucose tolerance	19,723	88

➔ Data access

NAKO Transfer Hub



The screenshot shows the NAKO Transfer Hub website. At the top, there is a navigation bar with a hamburger menu icon, the text "NAKO TransferHub > Startseite", and links for "DE", "FAQ", and "Anmelden". Below the navigation bar, the main heading is "NAKO Gesundheitsstudie". To the left of the main text is a collage of four photos of diverse people, with the NAKO logo overlaid. Below the photos are social media icons for Facebook, Twitter, and Instagram. The main text describes the data transfer service for scientists. A blue button labeled "Datenverzeichnis" is visible. To the right, under the heading "Wichtige Informationen", there is a list of links to various study documents and information pages.

NAKO TransferHub > Startseite DE © FAQ ➔ Anmelden

NAKO Gesundheitsstudie

Hier stellt die Transferstelle der NAKO Gesundheitsstudie Daten für die wissenschaftliche Nutzung zur Verfügung. Wissenschaftler*innen des deutschsprachigen Raums können entsprechende Nutzungsanträge gemäß den Vorgaben der [Nutzungsordnung](#) stellen. Wir empfehlen Ihnen vor Antragseinreichung das Informationsblatt [TFS-Info-03 Informationen zum Nutzungsverfahren](#) zu lesen.

Die Einsicht in das Datenverzeichnis mit Beschreibung der Studienvariablen sowie die Antragstellung erfordern eine [Registrierung](#).

[Datenverzeichnis](#)

Wichtige Informationen

- [NAKO-Studienbeschreibung](#)
- [TFS-Info-03 Informationen zum Nutzungsverfahren](#)
- [Nutzungsordnung](#)
- [Publikationsordnung](#)
- [Aktueller Stand der bereits verfügbaren Module](#)
- [Übersicht zu Einschränkungskategorien im Datenverzeichnis](#)
- [Excel-Auszug aus Datenverzeichnis](#)
- [TFS-Info-07a Informationen zum 2. MRT-Call](#)
- [TFS-Info-09a Informationen zur Verwendung von aggregierten Daten](#)
- [TFS-Info-11 Informationen zur Beantragung einer Zwischenübergabe](#)
- [TFS-Info-12a Informationen zu Metadaten- und Ergebnisdatenübermittlung](#)

<https://transfer.nako.de/transfer/index>

- digital data dictionary and study documents
- data application and provision tool
- currently open for all German scientists