A multi-centered prospective birth cohort study in Western China

Xiangyu Li[1,2#], Ying Wu[3#], Bin Yi[4#], Mengjie Chen[5#], Gang Zhang[6,7#], Xiaoshan Shao[8#], Xiulian Jiang[9#], Yuxia Cui[10#], Li Chen[11], Xiaojing Dong[5], Shu Zhang[1], Yao Zhao[1], Yuebi Deng[1], Xueqi Li[2], Yang Wang[1], Lei Wu[1], Yu Fu[1], Dan Ran[1], Chen Peng[2], Xiao Yang[3], Lan Zhang[3], Yanxia Wang[4], Yi Zhu[5], Dina Sun[5], Yuchen Ran[12], Dan Zheng[13], Xuan Yin[13], Yufen Chen[9], Yu Long[10], Wenjing Wang[10], Xiaodong Zhao[14], Enmei Liu[15*], Tao Xu[2*], Qiu Li[16*], Wen Zhong[1,2*]

[1] Department of Early Life Development and Cohort Research Laboratory, Children's Hospital of Chongqing Medical University, National Clinical Research Center for Child Health and Disorders, Ministry of Education Key Laboratory of Child Development and Disorders, Chongqing Municipal Health Commission Key Laboratory of Children's Vital Organ Development and Diseases, Chongqing 401122, China

[2] Guangzhou National Laboratory, Guangzhou 510005, China

[3] Chengdu Women's and Children's Central Hospital, School of Medicine, University of Electronic Science and Technology of China, Chengdu 611731, China

[4] Gansu Provincial Maternity and Child-Care Hospital (Gansu Provincial Central Hospital), Gansu Provincial Pediatric Clinical Research Center, Lanzhou 730050, China

[5] The Second Affiliated Hospital of Chongqing Medical University, Chongqing 400000, China

[6] Department of Obstetrics, Sichuan Provincial Women's and Children's Hospital, The Affiliated Women's and Children's Hospital of Chengdu Medical College, Chengdu 610045, China

[7] Department of Hepatobiliary and Vascular Surgery, The First Affiliated Hospital of Chengdu Medical College, Chengdu 610500, China

[8] Department of Renal Rheumatology and Immunology, Guiyang Maternal and Child Health Care Hospital, Guiyang 550003, China

[9] Qinghai Provincial Women and Children's Hospital, Xining 810007, China

[10] Shanghai Children's Medical Center Guizhou Hospital, Shanghai Jiao Tong University School of Medicine, GuiYang 550081, China

[11] Growth, Development and Mental Health Center of Children and Adolescents, Chongqing Key Laboratory of Child Neurodevelopment and Cognitive Disorders, National Clinical Research Center for Child Health and Disorders, Ministry of Education Key Laboratory of Child Development and Disorders, Children's Hospital of Chongqing Medical University, Chongqing 400014, China

[12] Department of Child Healthcare, Sichuan Provincial Women's and Children's Hospital, The Affiliated Women's and Children's Hospital of Chengdu Medical College, Chengdu 610045, China

[13] Department of Maternity Health, Guiyang Maternal and Child Health Care Hospital, Guiyang 550003, China

[14] Department of Rheumatism and Immunology, Children's Hospital of Chongqing Medical University, National Clinical Research Center for Child Health and Disorders, Ministry of Education Key Laboratory of Child Development and Disorders, Chongqing Key Laboratory of Child Rare Diseases in Infection and Immunity, Chongqing 401122, China

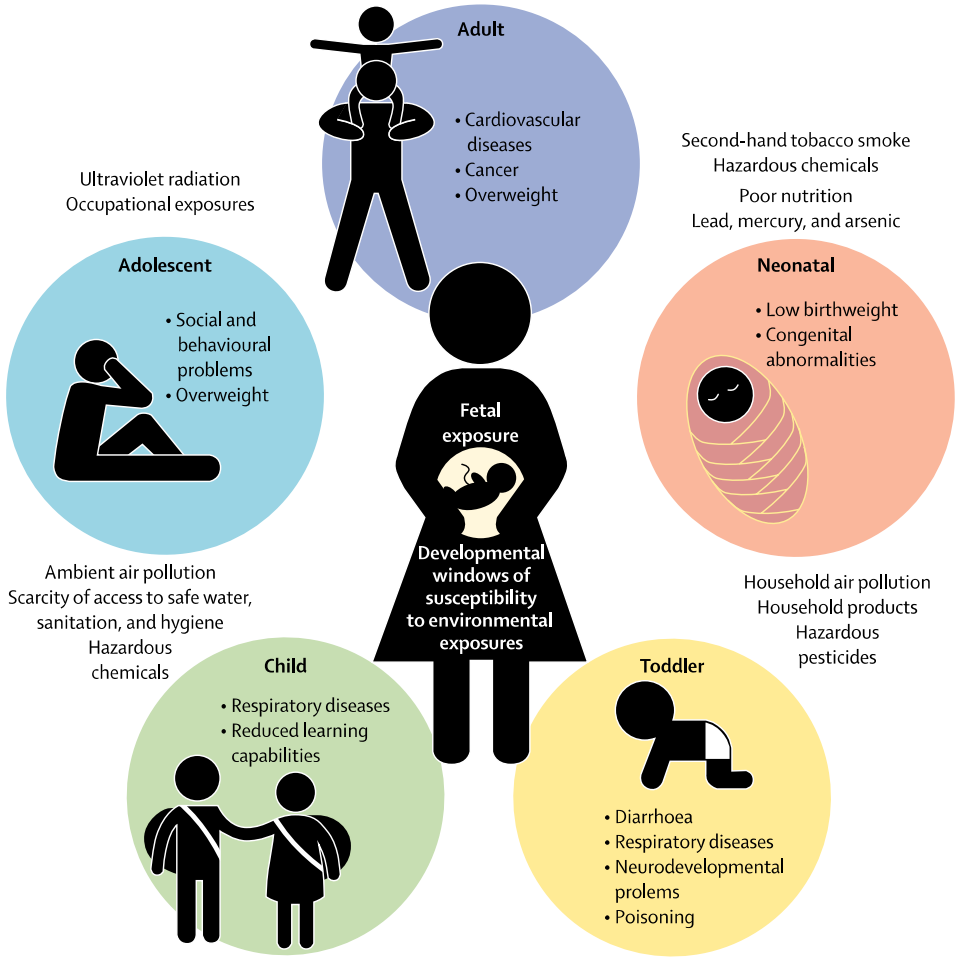
[15] Department of Respiratory Medicine, Children's Hospital of Chongqing Medical University, National Clinical Research Center for Child Health and Disorders, Ministry of Education Key Laboratory of Child Development and Disorders, Chongqing Key Laboratory of Child Rare Diseases in Infection and Immunity, Chongqing 401122, China

[16] Department of Nephrology, Children's Hospital of Chongqing Medical University, National Clinical Research Center for Child Health and Disorders, Ministry of Education Key Laboratory of Child Development and Disorders, Chongqing Key Laboratory of Pediatric Metabolism and Inflammatory Diseases, Chongqing 401122, China

Xiangyu Li, Ying Wu, Bin Yi, Mengjie Chen, Gang Zhang, Xiaoshan Shao, Xiulian Jiang, Yuxia Cui, Li Chen, Xiaojing Dong, Shu Zhang, Yao Zhao, Yuebi Deng, Xueqi Li, Yang Wang, Lei Wu, Yu Fu, Dan Ran, Chen Peng, Xiao Yang, Lan Zhang, Yanxia Wang, Yi Zhu, Dina Sun, Yuchen Ran, Dan Zheng, Xuan Yin, Yufen Chen, Yu Long, Wenjing Wang, Xiaodong Zhao, Enmei Liu, Tao Xu, Qiu Li, Wen Zhong. 2025. A multi-centered prospective birth cohort study in Western China. ***iMeta*** 4: e70049.
https://doi.org/10.1002/imt2.70049

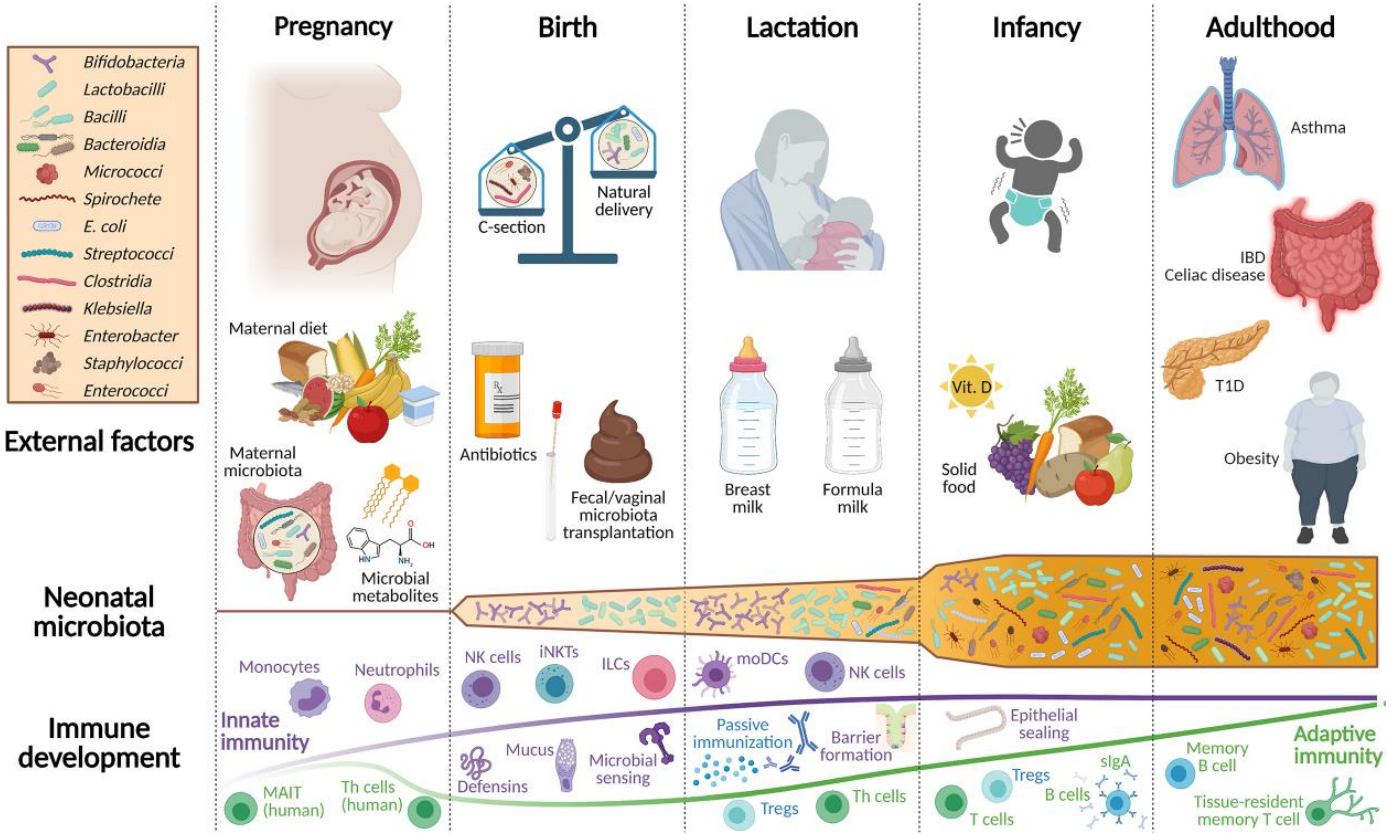
Background

The perinatal and early childhood development periods are critical for human lifelong health.



Poore, Kirsten R., et al. *The Lancet Planetary Health*, 2017

Birth cohorts, by longitudinally tracking individuals from the earliest stages of life, provide comprehensive insights into the progression of health and disease over a lifetime.



Kalbermatter, Cristina, et al. *Frontiers in immunology*, 2021

Background: Birth cohort worldwide

The Danish National Birth Cohort – its background, structure and aim

Jørn Olsen, Mads Melbye, Sjurdur F Olsen, Thorkild IA Sørensen, Peter Aaby, Anne-Marie Nybo Andersen, Dorthe Taxbøl, Kit Dynnes Hansen, Mette Juhl, Tina Broby Schow, Henrik Toft Sørensen, Jente Andresen, Erik Lykke Mortensen, Annette Wind Olesen and Charlotte Søndergaard

Danish Epidemiology Science Centre, Copenhagen and Aarhus, Denmark

Scand J Public Health 2001; 29: 300–307

International Journal of Epidemiology, 2014, 1719–1725
doi: 10.1093/ije/dyu001
Advance Access Publication Date: 17 February 2014
Cohort Profile

Cohort Profile

Cohort Profile: UK Millennium Cohort Study (MCS)

Roxanne Connelly[1]* and Lucinda Platt[2]

Int. J. Epidemiol. Advance Access published April 10, 2016

International Journal of Epidemiology, 2016, 1–7
doi: 10.1093/ije/dyw029
Cohort profile

Cohort profile

Cohort Profile Update: The Norwegian Mother and Child Cohort Study (MoBa)

Per Magnus,[1,*] Charlotte Birke,[1] Kristine Vejrup,[1] Anita Haugan,[1] Elin Alsaker,[1] Anne Kjersti Daltveit,[1,2] Marte Handal,[1] Margaretha Haugen,[1] Gudrun Høiseth,[1] Gun Peggy Knudsen,[1] Liv Paltiel,[1] Patricia Schreuder,[1] Kristian Tambs,[1] Line Vold[1] and Camilla Stoltenberg[1,2]

Huuskonen *et al. BMC Pregnancy and Childbirth* (2018) 18:381
https://doi.org/10.1186/s12884-018-2013-9

BMC Pregnancy and Childbirth

STUDY PROTOCOL Open Access

Kuopio birth cohort – design of a Finnish joint research effort for identification of environmental and lifestyle risk factors for the wellbeing of the mother and the newborn child

Pasi Huuskonen[1], Leea Keski-Nisula[2], Seppo Heinonen[2,3], Sari Voutilainen[4], Tomi-Pekka Tuomainen[4], Juha Pekkanen[5,6], Jussi Lampi[6], Soili M Lehto[7,8], Hannariikka Haaparanta[1], Antti-Pekka Elomaa[9], Raimo Voutilainen[10], Katri Backman[10], Hannu Kokki[11], Kirsti Kumpulainen[12], Jussi Paananen[13], Kirsi Vähäkangas[1] and Markku Pasanen[1*]

Townsend *et al. Pilot and Feasibility Studies* (2019) 5:32
https://doi.org/10.1186/s40814-019-0418-5

Pilot and Feasibility Studies

STUDY PROTOCOL Open Access

Illawarra Born cross-generational health study: feasibility of a multi-generational birth cohort study

Michelle L. Townsend[1,2], Megan A. Kelly[1,7], Judy A. Pickard[1,2], Theresa A. Larkin[1,3], Victoria M. Flood[5,6], Peter Caputi[1,2], Ian M. Wright[1,3,4], Alison Jones[1,3] and Brin F. S. Grenyer[1,2*]

Pansieri *et al. BMC Pediatrics* (2020) 20:80
https://doi.org/10.1186/s12887-020-1961-1

BMC Pediatrics

STUDY PROTOCOL Open Access

NASCITA Italian birth cohort study: a study protocol

Claudia Pansieri[1], Antonio Clavenna[1], Chiara Pandolfini[1*], Michele Zanetti[1], Maria Grazia Calati[1], Daniela Miglio[1], Massimo Cartabia[1], Federica Zanetto[2] and Maurizio Bonati[1]

European Journal of Epidemiology (2020) 35:157–168
https://doi.org/10.1007/s10654-020-00614-7

COHORT PROFILE

Lifelines NEXT: a prospective birth cohort adding the next generation to the three-generation Lifelines cohort study

Willemijn D. B. Warmink-Perdijk[1,2,3] · Lilian L. Peters[1,2,3] · Ettje F. Tigchelaar[4] · Jackie A. M. Dekens[4,5] · Soesma A. Jankipersadsing[4] · Alexandra Zhernakova[4] · Willem J. R. Bossers[6] · Jan Sikkema[5] · Ank de Jonge[1,3] · Sijmen A. Reijneveld[7] · Henkjan J. Verkade[8] · Gerard H. Koppelman[9,10] · Cisca Wijmenga[4] · Folkert Kuipers[11] · Sicco A. Scherjon[12]

Received: 24 June 2019 / Accepted: 7 February 2020 / Published online: 25 February 2020

European Journal of Epidemiology (2021) 36:129–142
https://doi.org/10.1007/s10654-020-00697-2

COHORT PROFILE

Cohort profile: Singapore Preconception Study of Long-Term Maternal and Child Outcomes (S-PRESTO)

Evelyn Xiu Ling Loo[1,2] · Shu-E Soh[2] · See Ling Loy[1,3,4] · Sharon Ng[5] · Mya Thway Tint[5] · Shiao-Yng Chan[1,5] · Jonathan Yinhao Huang[1] · Fabian Yap[4,6,7] · Kok Hian Tan[4,8] · Bernard S. M. Chern[9] · Heng Hao Tan[3] · Michael J. Meaney[1,10] · Neerja Karnani[1,11] · Keith M. Godfrey[12,13] · Yung Seng Lee[1,2,14] · Jerry Kok Yen Chan[3,4] · Peter D. Gluckman[1,15] · Yap-Seng Chong[1,5] · Lynette Pei-Chi Shek[1,2,14] · Johan G. Eriksson[1,5,16,17] · the S-PRESTO Study Group · Airu Chia · Anna Magdalena Fogel · Anne Eng Neo Goh · Anne Hin Yee Chu · Anne Rifkin-Graboi · Anqi Qiu · Bee Wah Lee · Bobby Kyungbeom Cheon · Candida Vaz · Christiani Jeyakumar Henry · Ciaran Gerard Forde · Claudia Chi · Dawn Xin Ping Koh · Desiree Y. Phua · Doris Ngiuk Lan Loh · Elaine Phaik Ling Quah · Elizabeth Huiwen Tham · Evelyn Chung Ning Law · Faidon Magkos · Falk Mueller-Riemenschneider · George Seow Heong Yeo · Hannah Ee Juen Yong · Helen Yu Chen · Heng Hao Tan · Hong Pan · Hugo P S van Bever · Hui Min Tan · Izzuddin Bin Mohd Aris · Jeannie Tay · Jerry Kok Yen Chan · Jia Xu · Joanne Su-Yin Yoong · Johan Gunnar Eriksson · Jonathan Tze Liang Choo · Jonathan Y. Bernard · Jonathan Yinhao Huang · Jun Shi Lai · Karen Mei Ling Tan · Keith M. Godfrey · Kenneth Yung Chiang Kwek · Keri McCrickerd · Kothandaraman Narasimhan · Kok Wee Chong · Kuan Jin Lee · Li Chen · Lieng Hsi Ling · Ling-Wei Chen · Lourdes Mary Daniel · Lynette Pei-Chi Shek · Marielle V. Fortier · Mary Foong-Fong Chong · Mei Chien Chua · Melvin Khee-Shing Leow · Michelle Zhi Ling Kee · Min Gong · Mya Thway Tint · Navin Michael · Ngee Lek · Oon Hoe Teoh · Priti Mishra · Queenie Ling Jun Li · Sambasivam Sendhil Velan · Seng Bin Ang · Shirong Cai · Si Hui Goh · Sok Bee Lim · Stella Tsotsi · Stephen Chin-Ying Hsu · Sue-Anne Ee Shiow Toh · Suresh Anand Sadananthan · Teng Hong Tan · Tong Wei Yew · Varsha Gupta · Victor Samuel Rajadurai · Wee Meng Han · Wei Wei Pang · Wen Lun Yuan · Yanan Zhu · Yin Bun Cheung · Yiong Huak Chan · Zai Ru Cheng

Received: 10 September 2019 / Accepted: 7 November 2020 / Published online: 21 November 2020

Background: Birth Cohort in China

The NEW ENGLAND JOURNAL of MEDICINE

CURRENT ISSUE · SPECIALTIES · TOPICS

CORRECTION

Prevention of Neural-Tube Defects with Folic Acid in China

Published December 9, 1999 | N Engl J Med 1999;341:1864 | DOI: 10.1056/NEJM199912093412424

VOL. 341 NO. 24 | Copyright © 1999

European Journal of Epidemiology (2022) 37:295–304
https://doi.org/10.1007/s10654-021-00831-8

COHORT PROFILE

The China birth cohort study (CBCS)

Wentao Yue[1] · Enjie Zhang[1] · Ruixia Liu[1] · Yue Zhang[1] · Chengrong Wang[1] · Shen Gao[1] · Shaofei Su[1] · Xiao Gao[1] · Qingqing Wu[2] · Xiaokui Yang[3] · Aris T. Papageorghiou[2,4] · Chenghong Yin[1]

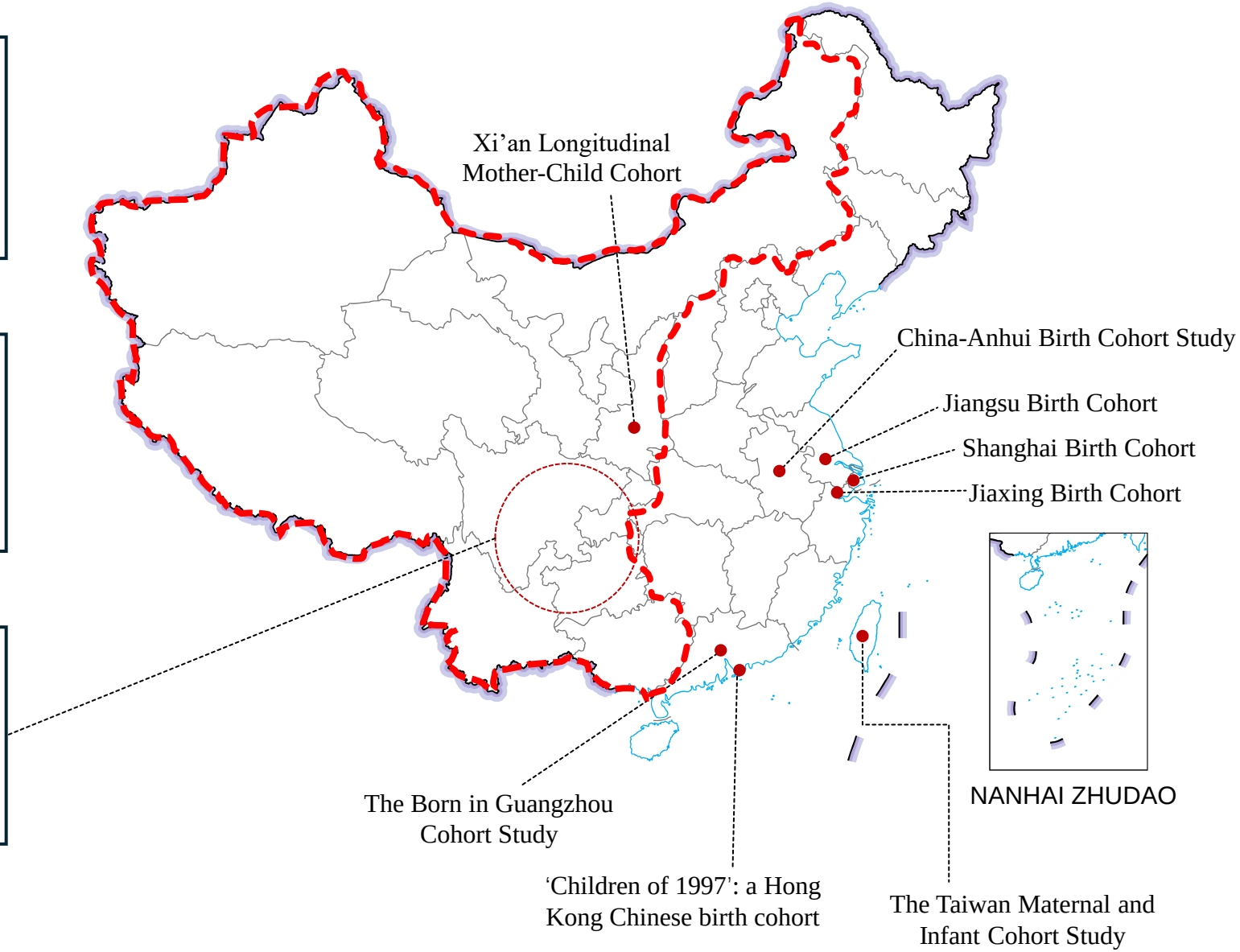
International Journal of Epidemiology, 2023, **00**, 1–7
https://doi.org/10.1093/ije/dyad103
Cohort Profile

IEA International Epidemiological Association · OXFORD

Cohort Profile

Cohort Profile: China Southwest Birth Cohort (CSBC)

Ziling Zhao,[1†] Weixin Liu,[1†] Jinnuo Hu,[1] Shiqi Chen,[1] Yan Gao,[1] Hong Wang,[1] Min Luo,[1] Tianjin Zhou,[1] and Gang Zhang[1,*]



Western China Brith Cohort (WCBC)

(A)

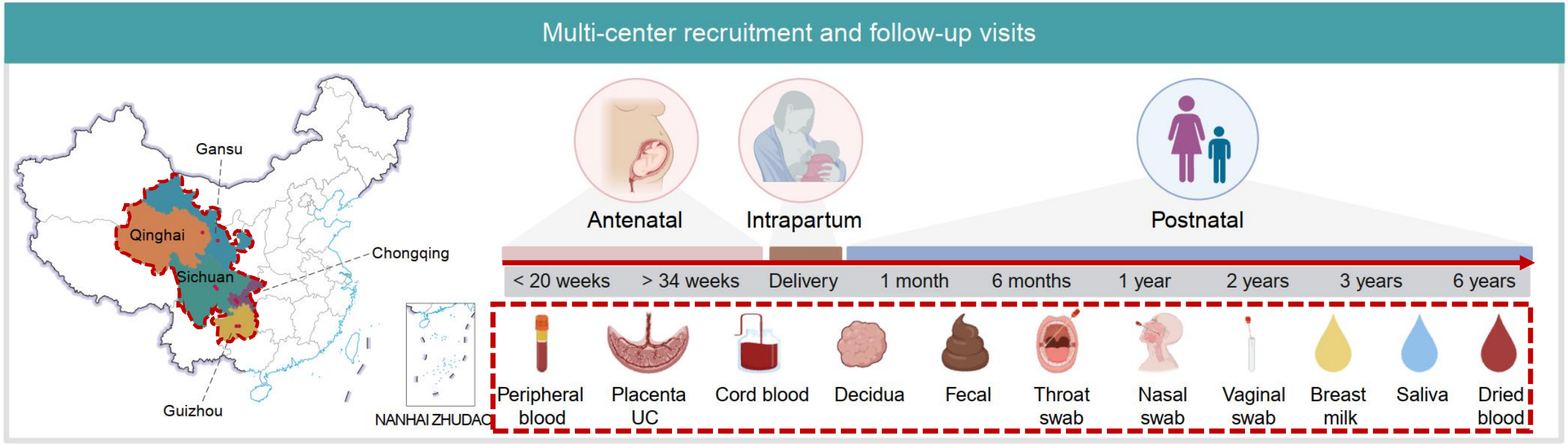


Figure 1. The design of recruitment, follow-up visit and biological sample collection in the cohort

Medical centers for recruiting and follow-up

Research centers

广州实验室
Guangzhou Laboratory

Collection of medical records and questionnaires

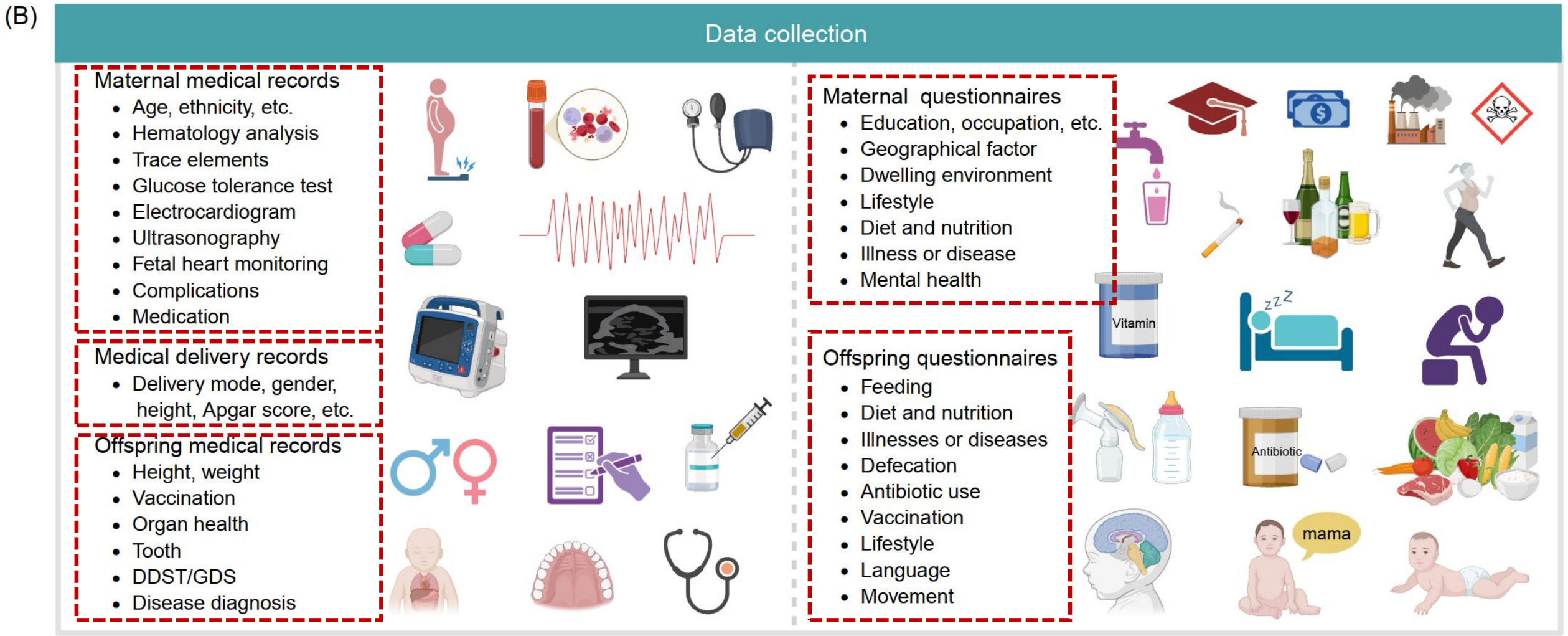


Figure 2. The design of data collection in the cohort

Multi-omics measurement of biological samples

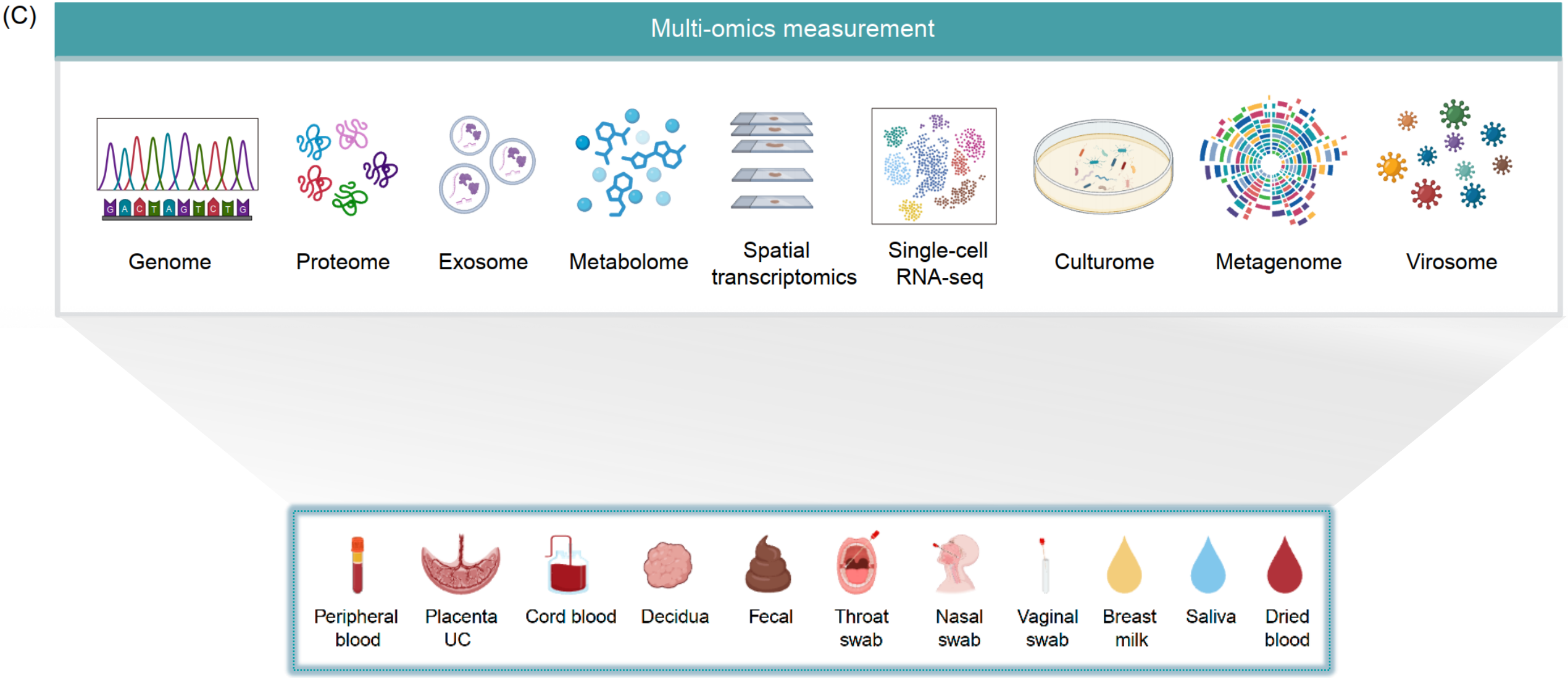


Figure 3. The design of multi-omics measurement in the cohort

Geographic and ethnic characteristics of participants

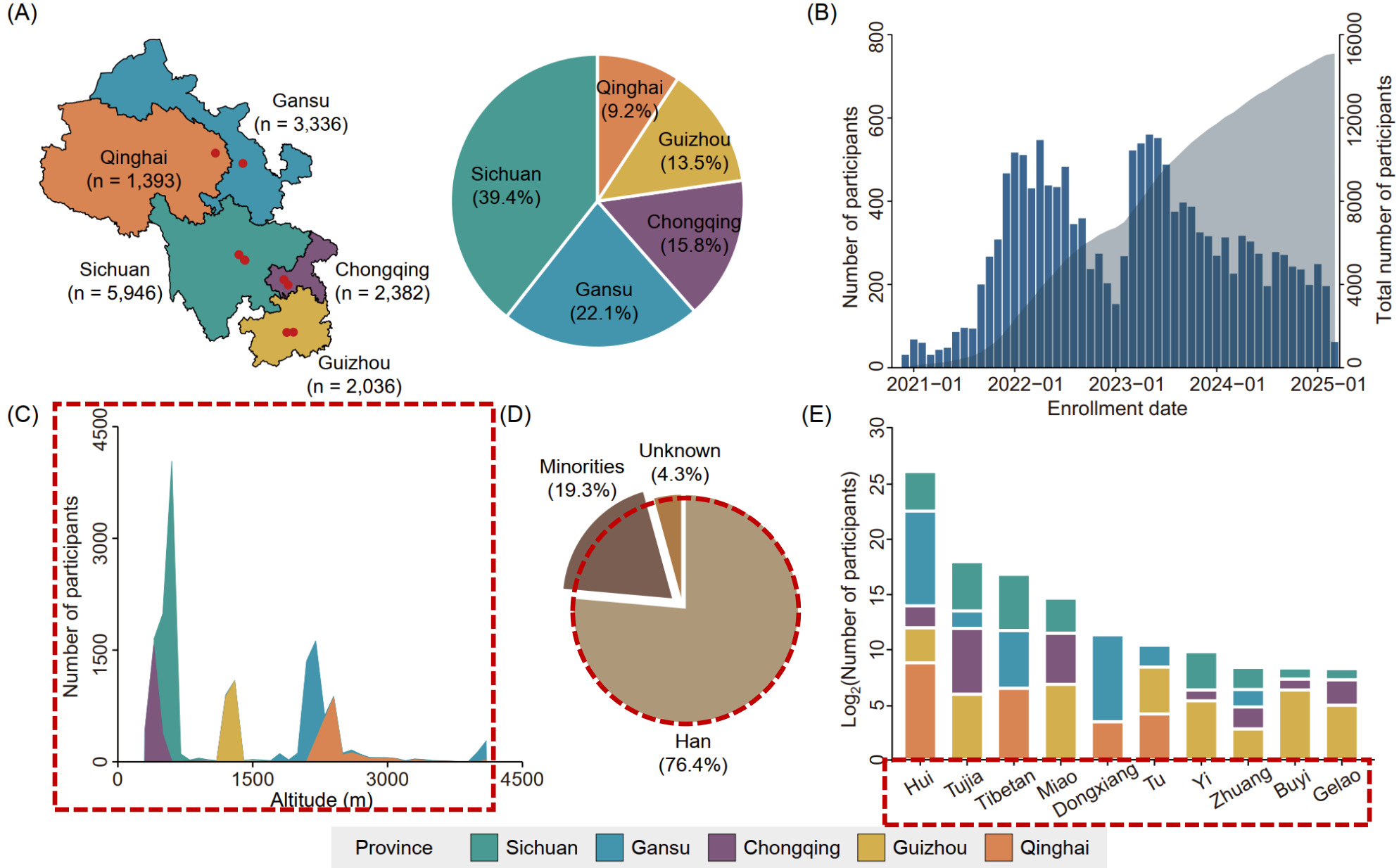


Figure 4. Geographic and ethnic distribution of participants

Follow-up of participants

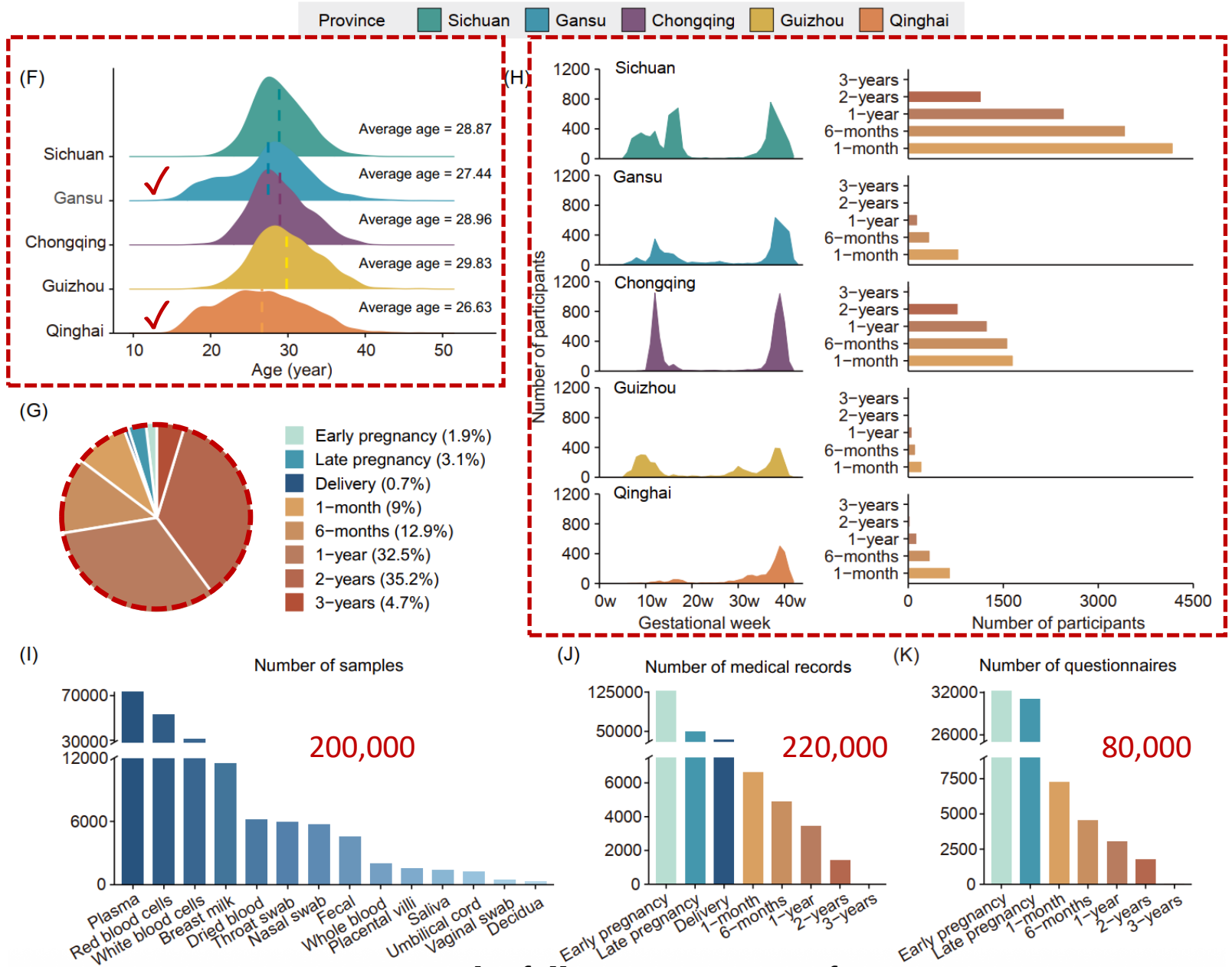


Figure 5. The follow-up progress of participants

Summary

- WCBC is a large-scale, multicenter, prospective study enrolling over 15,000 pregnant women across five provinces with diverse altitudes and ethnic populations in Western China.

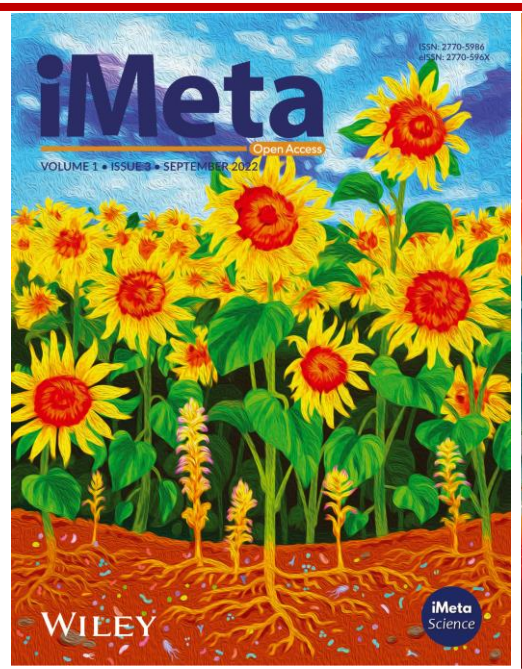
- WCBC enables comprehensive investigation of altitude-related, ethnicity-specific, and socioeconomic determinants of maternal-child health outcomes.

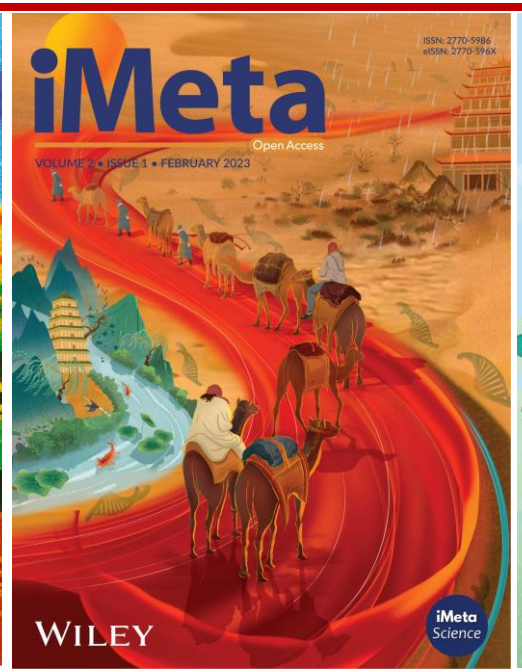
- WCBC integrates longitudinal data with multi-omics to advance understanding of early-life determinants of health and diseases and inform public health strategies in Western China.

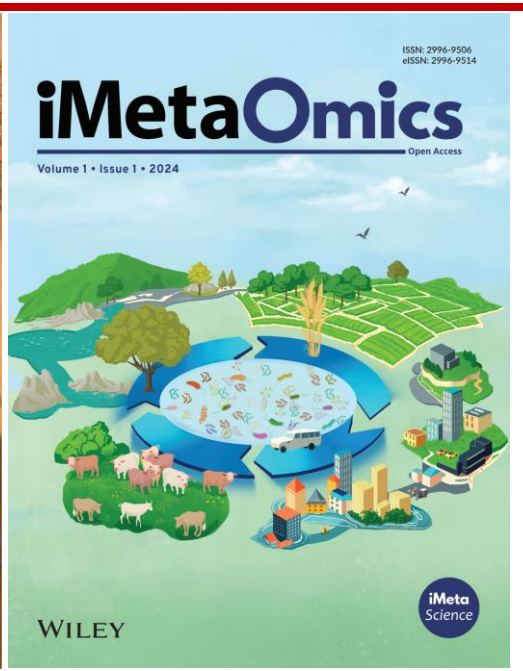
Xiangyu Li, Ying Wu, Bin Yi, Mengjie Chen, Gang Zhang, Xiaoshan Shao, Xiulian Jiang, Yuxia Cui, Li Chen, Xiaojing Dong, Shu Zhang, Yao Zhao, Yuebi Deng, Xueqi Li, Yang Wang, Lei Wu, Yu Fu, Dan Ran, Chen Peng, Xiao Yang, Lan Zhang, Yanxia Wang, Yi Zhu, Dina Sun, Yuchen Ran, Dan Zheng, Xuan Yin, Yufen Chen, Yu Long, Wenjing Wang, Xiaodong Zhao, Enmei Liu, Tao Xu, Qiu Li, Wen Zhong. 2025. A multi-centered prospective birth cohort study in Western China. ***iMeta*** 4: e70049.
https://doi.org/10.1002/imt2.70049

iMeta: Integrated metaomics to understand the biology, med and environment

WILEY







"*iMeta*" launched by iMeta Science Society in 2022, impact factor (IF) **23.8**, ranking top 107/21973 in world and 2/161 in the microbiology. It aims to publish innovative and high-quality papers with broad and diverse audiences. **Its scope is similar to *Cell*, *Nature*, *Science***, *Nature Biotechnology/Methods/Microbiology/Medicine/Food*. Its unique features include video abstract, bilingual publication, and social media with 600,000 followers. Indexed by SCIE/ESI, PubMed, Google Scholar etc.

"*iMetaOmics*" launched in 2024, with a **target IF>10, and its scope is similar to *Nature Communications***, ***Cell Reports***, *Microbiome, ISME J, Nucleic Acids Research, Briefings in Bioinformatics,* etc.

"*iMetaMed*" launched in 2025, with a **target IF>15, similar to *Med, Cell Reports Medicine***, *eBioMedicine, eClinicalMedicine* etc.

Society: http://www.imeta.science
Publisher: https://wileyonlinelibrary.com/journal/imeta
Submission: iMeta: https://wiley.atyponrex.com/journal/IMT2
iMetaOmics: https://wiley.atyponrex.com/journal/IMO2
iMetaMed: https://wiley.atyponrex.com/journal/IMM3

iMetaScience
iMetaScience

office@imeta.science
imetaomics@imeta.science

Promotion Video

Update 2025/5/21