

Yan Luo

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Education

Peking University

Master of Science in Epidemiology and Health Statistics
under supervision of Prof. Beibei Xu.

Beijing, China
Expected Jul 2022

Peking University

Bachelor of Medicine in Preventive Medicine

Beijing, China
Sep 2015–Jul 2020

Relevant Coursework

- Health Statistics
- Applied Linear Regression
- Generalized Linear Models
- Methods of Epidemiology
- Study Design of Epidemiology
- Data Mining of Medical Scientific Research
- Data Science and Big Data Analytics
- Applied Multivariate Statistical Analysis
- Application of Software Packages in Epidemiological Studies
- Applications of R Package in spatial data analysis
- Survival Analysis with Applications using R software

Publications

Journal articles (Published)

- Luo Y, Huang ZT, Liu H, Xu HW, Su HX, Chen YM, Hu YH, Xu B. Development and validation of a multimorbidity index predicting mortality among older Chinese adults. *Frontiers in Aging Neuroscience*. 2022; 14: 767240. (2020 IF: 5.750; Geriatrics & Gerontology: Ranked 9/53)
- Luo Y, Zhang Q, Han L, Shen ZC, Wang K, De Fries CM, Huang ZT, Cao GY, Chen ZS, Su HX, Xu HW, Chen YM, Ren ZQ, Hu YH, Xu B. Trends in the prevalence of vision impairment among the oldest-old Chinese population from 1998 to 2018. *Journal of Global Health*. In Press.
- Huang ZT, Luo Y, Han L, Wang K, Yao SS, Su HX, Chen S, Cao GY, De Fries CM, Chen ZS, Xu HW, Hu YH, Xu B. Patterns of cardiometabolic multimorbidity and the risk of depressive symptoms in a longitudinal cohort of middle-aged and older Chinese. *Journal of Affective Disorders*. 2022; 301: 1-7. (2020 IF: 4.839; Clinical Neurology: Ranked 53/208)
- Zhou W, Liu Y, Xu B, Wang S, Li S, Liu H, Huang ZT, Luo Y, Hu M, Wu W, Zhang Z, Long X, Zou W, Bian Y, Zou X, Elliott M, Yue L, Deng H, Chen H, Gao X, Wu Y, Fang M, Zhang B, Gao Y. Early identification of patients with severe COVID-19 at increased risk of in-hospital death: a multicenter case-control study in Wuhan. *Journal of Thoracic Disease*. 2021, 13(3): 1380-95. (2020 IF: 2.895; Respiratory System: Ranked 38/64)
- Yao SS, Xu HW, Han L, Wang K, Cao GY, Li N, Luo Y, Chen YM, Su HX, Chen ZS, Huang ZT, Hu YH, Xu B. Multimorbidity measures differentially predicted mortality among older Chinese adults. *Journal of Clinical Epidemiology*. 2022, 146: 97-105. (2020 IF: 6.437, Health Care Sciences & Services: Ranked 5/107)
- Cao GY, Wang K, Han L, Zhang Q, Yao SS, Chen ZS; Huang ZT, Luo Y, Hu YH, Xu B. Visual trajectories and risk of physical and cognitive impairment among older Chinese adults. *Journal of the American Geriatrics Society*. 2021, 69(10): 2877-2887. (2020 IF: 5.562; Gerontology: Ranked: 2/36)
- Yao SS, Meng XF, Cao GY, Huang ZT, Chen ZS, Han L, Wang K, Su HX, Luo Y, Hu YH, Xu B. Associations between Multimorbidity and Physical Performance in Older Chinese Adults. *International Journal of Environmental Research and Public Health*. 2020, 17(12): 4546. (2020 IF: 3.390; Public, Environmental & Occupational Health: Ranked 42/176)

Journal articles (In Process)

- Luo Y, Huang ZT, Chen YM, Xu HW, Su HX, Yang Z, Hu YH, Xu B. Trajectories of multimorbidity and frailty among older American adults. In Preparation.
- Luo Y, Chen YM, Wang K, De Fries CM, Xu HW, Yang Z, Hu YH, Xu B. The association between multimorbidity and frailty transitions among older Americans. Prepare to submit.
- Ba TH, Zhang DH, Luo Y, Yao SS, Xie R, Ren Q, Ji LN. Factors associated with response to basal insulin therapy in hospitalized patients with type 2 diabetes and suboptimal glucose control. Prepare to submit.

Books

- Li Y, Zhang Y, Xu B, Yu N, Cao GY, Chen ZS, Huang ZT, Luo Y, Su HX, Yao SS. Medical Information Analysis and Clinical Decision Support. Beijing: Peking University Medical Press. 2020. ISBN: 9787565922046.

Conferences

- **Luo Y**, Huang ZT, Xu HW, Chen ZS, Su HX, Liu H, Xu B. Development and validation of multimorbidity index predicting mortality among Chinese older adults. *Innovation in Aging* 2021, 5(S1):S609. *The Gerontological Society of America (GSA) 2021 Annual Scientific Meeting*. Online. November 2021.
- Xu HW, **Luo Y**, Huang ZT, Chen ZS, Su HX, Xu B. Comparisons of different multimorbidity measures to predict physical function among middle-aged and older Chinese. *Innovation in Aging* 2021, 5(S1):S544 *The Gerontological Society of America (GSA) 2021 Annual Scientific Meeting*. Online. November 2021.

Awards and Honors

- The Second Prize of National Academic Scholarship (2021-2022, 2020-2021)
- Award for Academic Excellence, Peking University (2019-2020)
- The Chugai Scholarship for Excellent Medical Students, Peking University (2018-2019)
- The Second Prize Scholarship for Excellent Medical Students (The Eisai [China] Pharmaceutical Scholarship), Peking University (2017-2018)
- Award for Contribution in Student Organizations, Peking University (2017-2018, 2018-2019)

Projects

Multimorbidity measures

Medical Informatics Center, Peking University

Graduate Student Researcher

Nov 2020–Feb 2022

- Developed a multimorbidity index incorporating disease combinations identified by the association rule mining to predict mortality using the logistic regression among 11,853 older Chinese adults.
- Explored multimorbidity patterns by data mining methods including the explanatory factor analysis and the group-based trajectory model; compared the performance of different multimorbidity measures in predicting mortality and disability by Cox proportional hazards models.
- Presented research in the conference through a poster presentation as the first author; published a paper in the *Frontiers in Aging Neuroscience* as the first author; submitted a paper to the *Journal of Clinical Epidemiology* as the co-author; assisted in completing the final research project report.

Frailty and multimorbidity

Medical Informatics Center, Peking University

Graduate Student Researcher

May 2021–Present

- Identified multimorbidity patterns using the latent class analysis; examined the association between multimorbidity patterns and dynamic frailty transitions; described the trajectories of frailty status and multimorbidity among older populations.
- Completed two papers and prepared to submit.

Cardiometabolic multimorbidity

Medical Informatics Center, Peking University

Graduate Student Researcher

Aug 2020–Jan 2022

- Examined the associations between cardiometabolic multimorbidity and adverse health outcomes, including depressive symptoms and disability, by generalized estimation equation models among more than 20,000 Chinese adults.
- Described the transitions of cardiometabolic disease, multimorbidity, and mortality utilizing multi-state Markov models among 17,250 older patients with hypertension.
- Investigated the literature related to multimorbidity patterns/clusters and the network analysis in the past five years; gained expertise in the complex network and overlapping community detection.
- Published three papers in the *Journal of Affective Disorders*, *Journal of Jilin University (Medicine Edition)*, and *Chinese Journal of Prevention and Control Non-communicable Diseases* as the second author; assisted in completing the interim research project report; cooperated in writing a grant proposal.

Trends in the prevalence of vision impairment

Medical Informatics Center, Peking University

Graduate Student Researcher

Jun 2020–Present

- Analyzed a non-linear trend based on repeated panel data from 45,849 older Chinese adults using generalized estimation equation and natural cubic spline models.
- Acquired in-depth knowledge on trend analyses, such as the Cochran-Armitage test, linear regression, and logistic regression for a linear trend, as well as the polynomial regression, Joinpoint regression, and restricted cubic spline regression for a non-linear trend.
- Guided other team members of our research group to analyze the trends in the prevalence of hearing impairment and tooth loss.
- Submitted a paper to the *Journal of Global Health* as the first author.

Identification of patients with severe COVID-19

Medical Informatics Center, Peking University

Data analyst

Feb 2020–Jul 2020

- Organized data extracted from the medical records of 93 pairs of patients admitted to three hospitals in Wuhan; conducted a multicenter, age-matched case-control study.

- Explored the risk factors associated with in-hospital mortality by the logistic regression; compared the differences in laboratory variables between admission days 1, 4, 7, and 10; compared temporal trends of laboratory data between survivors and non-survivors using mixed linear models.
- Published a paper in the *Journal of Thoracic Disease* as the co-author.

Predictors of basal insulin therapy among diabetes patients

Peking University People's Hospital

Data analyst

Sep 2021–Present

- Conducted a case-control study based on the medical records of 1,750 diabetes patients.
- Explored the risk factors associated with basal insulin therapy choice when discharge by the logistic regression; compared the difference in fingertip capillary glucose between admission and discharge using mixed linear models.
- Finished a manuscript as the co-author and prepared to submit.

Work Experience

The Center of Health Supervision National Health Commission

Beijing, China

Intern

Jan 2020–present

- Updated data for monthly, semi-annual, and annual reports using the Excel linked table.
- Cooperated to write more than ten statistical reports on National Health Supervision Information; coordinated the team members to complete the reports.
- Proofread English abstracts for the *Chinese Journal of Health Inspection*.

Shunyi Center for Disease Prevention and Control

Beijing, China

Intern

Jul 2019–Sep 2019

- Participated in the sample collection of the Norwalk virus in five restaurants.
- Assisted in completing routine inspections of drinking water quality in two communities.

Beijing Shijitan Hospital

Beijing, China

Intern

Feb 2018–Jan 2019

- Familiar with common cases in eight departments such as the Department of Cardiology and Respiratory Medicine.
- Participated in the inquiry, physical examination, and writing medical records.

Skills

Software: R, SAS, SPSS, PASS; Photoshop, Visio, Origin; PowerPoint, Excel.

Language: English (TOFEL iBT score 91/120, reading section: 28/30), Japanese (Level N1 of the Japanese-Language Proficiency Test).