

# YANG CAO

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## Education

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| 2004 | <p>Ph.D, Socical Medicine &amp; Public Health Services Management (Public Health Survey Option), Dept of Hospital Management, Fudan University, Shanghai, China</p> <ul style="list-style-type: none"> <li>• Dissertation: “<i>Measurement quality assessment and latent variable model analysis of World Health Survey - China Survey</i>”</li> </ul> <p>Advisor: Jie Chen, MD, Prof, Special Representative of Director General, WHO</p> |
| 1998 | <p>M.A. Health Statistics, Dept of Health Statistics, Second Military Medical University, Shanghai, China</p> <ul style="list-style-type: none"> <li>• Dissertation: “<i>Analysis of medical quality index and study on measuring complexity of inpatient disease groups</i>”</li> </ul> <p>Advisor: Luoman Zhang, Prof, Director of Dept of Health Statistics, Second Military Medical University, Shanghai, China</p>                    |
| 1993 | <p>B.A Medical Electronic Engineering, Dept of Biomedical engineering, Fourth Military Medical University, Xi’an, China</p> <ul style="list-style-type: none"> <li>• Dissertation: “<i>Automatic coding software for Chinese characters</i>”</li> </ul> <p>Advisor: Zhiming Zhou, Prof, Fourth Military Medical University, Xi’an, China</p>   |

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## Employment

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| Nov 2006-present  | Postdoctoral Visiting Fellow, Epidemiology Branch, NIEHS, USA  |
| Aug 2004-Nov 2006 | Vice Director, Associate professor, Dept of Health Statistics, Second Military Medical University, Shanghai, China   |
| Nov 2001–Aug 2004 | <p>Principal Lecturer, Dept of Health Statistics, Second Military Medical University, Shanghai, China</p> <ul style="list-style-type: none"> <li>• Primary instructor for Intro. to Medical Statistics &amp; Intro. to Statistics Software</li> <li>• Statistical modeling</li> <li>• Instruct SAS programmers</li> <li>• Consults on clinical trial design &amp; data analysis.</li> <li>• Develop and maintain web page of <i>Lyceum Of Health Statistics</i></li> <li>• Participate in project team meetings</li> <li>• Nominated for excellence in Teaching Award</li> </ul> |
| Apr 2001-Oct 2001 | Statistician, Evidence and Information for Policy Cluster, WHO, Geneva, Switzerland.   |
| 1998-2001         | <p>Lecturer</p> <p>Teaching Assistant, Dept of Health Statistics, Second Military Medical University, Shanghai, China</p> <ul style="list-style-type: none"> <li>• Teaching and research in health statistics</li> <li>• Tutored students during office hours</li> <li>• Answered questions about SAS, SPSS, Stata and other softwares</li> <li>• Teached shortcourses</li> <li>• Performed and presented data analysis of clinical trials</li> <li>• Programmed, validated, and documented SAS macros for in-course use</li> </ul>  |

- 1993-1995      Assistant Engineer, Dept of Hospital Information, Fuzhou Hospital of Air Force, Fuzhou, China
- Maintained computer network and database of hospital information system
  - Performed and presented quality analysis of hospital services
  - Executed and summarized daily statistical report

## Technical Skills

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General skills in statistics and computing. Specific expertise and interests in:

- Statistics: ANOVA & MANOVA, modeling, linear & non-linear models, sampling & resampling techniques, missing data, time series analysis, multivariate statistical inference, latent variable analysis, IRT theory & Rasch model.
- Clinical trial and data management: design of experiments & clinical trials, field work experiences, familiar with clinical data management software-Studybuilder.
- Computing platforms: Windows, Windows NT, Mac OS.
- Programming languages: VB, HTML, and using SAS, SPSS, Stata as programming languages.
- Statistical/Mathematical software: SAS, SPSS and Stata. Extensive experience with Statistica, SigmaPlot, Prism and Harvard graphics.
- Text formatting and office computing: Word, Wordperfect, Lotus Word Pro, Excel, Lotus 1-2-3, Quattro Pro, PowerPoint, Lotus Freelance Graphics, Presentations, Visio and Smartdraw.
- Graphing and web constructing: Photoshop, Fireworks, Flash, Frontpage, Dreamweaver.

## Research and Experience

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- Jul 2005–Nov 2004      *A pilot survey of GERD incidence in general population, Shanghai* (supported by AstraZeneca R&D Mölndal), Project Director, Second Military Medical University, Shanghai, China
- Jan 2004–Dec 2004      *Recombinant Vaccine Against Plasmodium falciparum (Safety Immunogenicity and Dose Finding Study)* (supported by WHO/TDR), Data Management Manager, Statistics Analyst, Second Military Medical University, Shanghai, China
- Jan 2003–Dec 2003      *Field Survey, Assessment and Policy Research on Safe Injection* (supported by National Natural Science Foundation of China), Project Director, Second Military Medical University, Shanghai, China
- Jan 2002-Dec 2002      *World Health Survey - China survey* (sponsored by WHO), principal participant, member of expert panel, Medical Technology Assessment and Research Center, Fudan University, Shanghai, China
- Responsible for quality assessment and data analysis
- Mar 2002-Sep 2002      *Assessment of Injection Practices in Medical Facilities of China - a pilot survey in Shanghai* (supported by WHO), Project Director, Medical Technology Assessment and Research Center, Fudan University, China
- Apr 2001-Oct 2001      *World Health Survey 2000-2001* (sponsored by WHO), participant, WHO, Geneva, Switzerland
- Conducted data management and multiple imputation
  - Performed descriptive analysis and presentation for 66 countries
- 2000-2002      *Research on micro-simulation model in health system reformation of China* (supported by National Natural Science Foundation of China), participant, Second Military Medical University, Shanghai, China
- Responsible for database management, and data analysis
- 1999-2001      *Research of Comprehensive Assessment Index System and Evaluation Model for Total Quality of Hospital Services* (supported by General Logistic Dept of CPLA),

principal participant, member of expert panel, Second Military Medical University, Shanghai, China

- Responsible for field work, key informant interview, data analysis and model construction

1998-1999 *Study of Evaluation Model for Reproductive Health* (supported by State Family Planning Commission of China), participant, Second Military Medical University, Shanghai, China

- Responsible for data analysis

1997-1998 Junior statistician, Dept of Health Services, General Logistic Dept of CPLA, Beijing, China

- Performed hyper-database monitor and comprehensive medical services quality assessment for 220 hospitals
- Participated in the consultation meeting for distribution and utilization of health resources

### Honors and Awards

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Jul 2004	<i>Outstanding Graduated Student Award</i> , Fudan University
2002-2003	<i>First Level Education Award</i> , Fudan University
2001-2002	<i>Federation Medical Education Award</i> , Fudan University
2002	<i>Outstanding Teacher</i> , Second Military Medical University
1998	<i>Outstanding Article Award</i> , Journal of Chinese Hospital Management

### Supplemental Education

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Jan 1997- Jun 1997	<i>Advanced skills of SAS application in medical science research, Bootstrapping and bootstrap resampling simulation techniques</i> , Dept of Biostatistics, Second Shanghai Medical University, Shanghai, China.
Jul 1995-Jan 1996	<i>Statistics of Management, Linear Algebra, Operational Research</i> , Dept of Mathematics & Statistics, Fudan University, Shanghai, China

### Other Trainings and Short Courses

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Mar 2006	<i>A Training Course for MedDra</i> , Bangkok Thailand.
Sep 2004	<i>Annual Meeting of WHO/TDR Clinical Data Management Network</i> , Vellore, India.
Jan 2004	<i>WHO/TDR Clinical Data Quality Control WorkShop</i> , WHO, Bangkok Thailand.
Sep 2003	<i>Clinical Data Management WorkShop</i> , WHO/TDR, Bangkok Thailand.
Sep 2003	<i>Forum on Clinical Data Management SOPs</i> , WHO/TDR, Bangkok Thailand.
Jan 2002	<i>Public health survey and Kish grid sampling</i> , Ministry of Health, Beijing China.
Jun 2001	<i>Rapid assessment tool of injection practices</i> , WHO, Geneva, Switzerland

### Selected Publications

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1. Yang Cao, Jie Chen, and Jianwen Cao. *A pilot study on injection practices in healthcare facilities of Shanghai, China*. World Health Organization Technique Report (Published). 2003.
2. Yang Cao, Mei Li, Wanjun Xie. *Bootstrapping estimates of regression analysis for a non-random sample and its application in the research on anti-proliferation effects of triptolide*. Journal of Medical Colleges of PLA. 2003,18(2): 124
3. Yang Cao, Sadana Ritu, Tandon Ajay. *Using multiple imputation method to analyze World Health Survey data*. Academic Journal of Second Military Medical University. 2003.
4. Yang Cao, Wanjun Xie, Luoman Zhang. *Methods of multiple imputation and related inference theory*. Chinese Journal of Hospital statistics. 2003;10(2):77-81

5. Yang Cao, Sadana Ritu, Tandon Ajay. *Multiple imputation for missing data on household Survey*. Chinese Journal of Health Statistics. 2002;19(5):280-282
6. Yang Cao, Luoman Zhang. *A measurement of complexity of diseases*. Chinese Hospital Management. 2000;20(5):46-47
7. Yang Cao, Luoman Zhang. *Application of disease entities quality control in hospital management*. Hosp Admin J Chin PLA. 2000;7(4):294-295
8. Yang Cao, Luoman Zhang. *Medical services quality assessment methods based on disease groups*. Chinese Journal of Hospital statistics. 2000;12(7):237-240
9. Yang Cao, Luoman Zhang. *Reformation in Biostatistics Courses for Graduate Students -A Method Based on Problem*. Foreign Medical Sciences-Medical Education Branch. 2000;21(4):36-39.
10. Yang Cao, Luoman Zhang. *Comprehensive evaluation methods of medical services quality*. Chinese Journal of Health Statistics. 1998;15(5):34-43
11. Yang Cao, Hong Meng. *Thomas TH Wan method versus case-mix index in analysis of disease complexities*. Chinese Hospital Management. 1998;18(3):24-26
12. Luoman Zhang, Yang Cao. *Brief Discussion on the Effect of "General Assessment Index" adjusted by the "Rate of Serious Cases"*. Hosp Admin J Chin PLA. 2000;7(2):135-137.
13. Luoman Zhang, Yang Cao. *Application of CD Rate in Medical Services Quality Evaluation*. Chinese Journal of Hospital Administration. 2000;16(7):406-407.
14. Ping Huang, Yang Cao. *Forecasting and objective control of average stay days by seasonal trend model*. Chinese Journal of Health Statistics. 1999;16(6):349-351.

## Books & Technical Reports (as co-author)

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*Health Systems Performance Assessment-Debates, Methods and Empiricism*. WHO, 2003.  
*SAS analysis in medical statistics*, published by Second Military Medical University, 2002  
*Health statistics for military hospitals*, published by Second Military Medical University, 2002  
*SAS and its application in medical research*, published by Shanghai Medical University, 2000  
*Medical statistics* (for graduated students), published by PLA medician book concern, 1999  
*Theory and methods of health economics*, published by Second Military Medical University, 1998  
*Describing population health in six domains: comparable results from 66 household surveys*,  
 Global Programme on Evidence for Health Policy Discussion Paper No. 43, World Health  
 Organization, March 2002.  
*WHO Multi-country Survey Study on Health and Responsiveness 2000-2001*, Global Programme  
 on Evidence for Health Policy Discussion Paper 37, 30 November 2001.

## Main presentations and invited Lectures

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*SPSS and its application in medical research*, an instruction for Ph.D Student course, Second  
 Military Medical University, Oct, 2002.  
*Statistical methods in social survey research*, School of Public Health, Fudan University, Jun,  
 2002.  
*Understanding Kish grid-a sampling method in household survey*, School of Public Health, Fudan  
 University, Jun, 2002.  
*World Health survey and health status evaluation cross populations*, an instruction of World  
 Health Survey for graduated students, Second Military Medical University, May, 2002.  
*A pilot study on injection practices in healthcare facilities of Shanghai, China*, an instruction for  
 delegation of Ministry of Health of Mongolia, Medical Technology Assessment and Research  
 Center, Fudan University, Mar, 2002.  
*Case-mix index and comprehensive assessment of medical services quality*, invited talk for the  
 statisticians from 16 hospitals, Huzhou, Jul, 1999.  
*Application of several statistical softwares*, invited talk for Agency of SAS Inc, Shanghai, China,  
 Oct, 1998.

## Relevant Coursework

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Probability theory	Categorical data analysis
Statistical inference	Liner models
Multivariate analysis	Nonparametric analysis
Missing data analysis	Bayesian statistics
Advanced sampling methods	Rasch model & vignette analysis
Resampling methods	Statistical consulting practicum
Biostatistics methods	Health economics

## Non-Work Special Interests

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Table tennis, Go (also named Weiqi, a kind of chinese ancient chess) and swimming.