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# Gender Policy and HIV in China

Catalyzing Policy Change

 Springer

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## DEDICATION

*To:*

*Richard E. Ewing*

*who encouraged and supported  
the development and writing of this book,  
who wrote the Preface for the book,  
but who did not live to see the book  
published.*

*Requiescat in Pace!*

# Preface

In recent years Chinese and American scientists have seen the sphere of research collaboration expand further than ever before. Just as economic and political links have multiplied between the United States and China in keeping with our global influence, valuable new scholarly connections are being forged between our countries. The biennial China-U.S. Relations Conferences in 2003 and 2005 were outstanding examples of cooperative investigations in areas important to the scholars and citizens of both nations. Such cooperation continued in the 2007 conference, titled the George Bush China-U.S. Relations Conference in honor of the 41st U.S. President, who was instrumental in launching the series.

Collaborative “Research Roundtables” are central to the substance and success of the conferences. This book reports on the findings of one such roundtable from the 2005 conference, “Gender Policy and HIV in China.” The experts who participated in this roundtable comprised a multi-disciplinary group of U.S. and China scholars, experts, policy makers, and activists, all addressing in various ways the issue of gender inequality as a factor in the spread and control of HIV in China. The North American and Chinese participants pooled their expertise in demography, sociology, public health and law to shed light on this critically important public health issue.

As a scientist and an administrator, I believe there is nothing more vital to research than this kind of collaboration between scholars. In my former capacity as Vice President for Research at Texas A&M University—an institution that is home to many highly talented scientists working in a broad spectrum of research disciplines—I had the privilege of seeing the power of intellectual partnerships in science at close range. I am therefore committed to ensuring Texas A&M’s continued participation in the George Bush China-U.S. Relations Conference series. I know that future conferences will yield valuable scientific contributions—just as this roundtable did.

Texas, USA

Richard E. Ewing

## Acknowledgements

The idea of a book on gender policy and HIV in China was first introduced in planning for a roundtable session of the same title, which was held at Peking University in November of 2005. The roundtable was part of the “Second China-U.S. Conference on Trade, Diplomacy, and Research” that was organized and sponsored by the Chinese People’s Association for Friendship with Foreign Countries, Texas A&M University, the George Bush School of Government and Public Service, and the George Bush Presidential Library Foundation.

The editors of this book were instrumental in varying ways in organizing the “Gender Policy and HIV in China Working Group.” Joseph D. Tucker and Baochang Gu first proposed the research focus. Dudley Poston and Xiaoying Zheng then sought support from their colleagues at Texas A&M University and Peking University regarding the establishment of a “Gender Policy and HIV in China” roundtable as one of the roundtables to be included in the “Second China-U.S. Conference on Trade, Diplomacy, and Research.” Qiang Ren and Stephanie Wang assisted in all these efforts. The Working Group also obtained funding from the Ford Foundation and from Texas A&M University to enable us to bring several of the chapter authors to the roundtable session in Beijing, to provide for simultaneous translation at the roundtable, and to provide funds to assist in the publication of this book.

We thank Eve Lee and the Ford Foundation in Beijing, China who provided initial funding for the development of our Working Group in 2005, as well as funding for the organization and development of the roundtable. We thank Richard Ewing, Rick Nader, Julie Barker and Ben Crouch, all of Texas A&M University, for their support, encouragement and funding support.

The roundtable session in November of 2005 was aided significantly by the four book editors who attended the Beijing conference (Gu, Poston, Ren, and Zheng), as well as several others who presented their research and/or assisted in the logistics of the roundtable session, and provided support and encouragement; these include Ben Crouch, Sandra Hyde, Crystal Copeland, Carol Walther, Xiushi Yang, Scott Burris, Tianfu Wang, Xiaoying Zheng,

Guomei Xia, and Chenghua Hu. Although not able to attend the conference, the Working Group appreciated advice from Joan Kaufman of Harvard University, Drew Thompson of the Nixon Center, and Dongbao Yu at the World Health Organization. The Working Group benefited greatly from the gender analysis of Dr. Jinling Wang of the Zhejiang Academy of Social Sciences; her work was presented at the conference but was not able to be a part of this book.

We also express thanks to the Peking University Institute of Population Research, especially Chenghua Hu, and the several sociology students who translated papers and other documents in preparation for the conference. We are indebted to Peking University for the working group website server space, and to Wenxin Du of Swarthmore College for website design.

Several months after the close of the conference, Qiang Ren, Joe Tucker and Stephanie Wang took the lead in assembling the edited versions of the research papers presented at the conference. They also asked other scholars to contribute chapters. This resulted in the eleven substantive chapters that now form our book. Tucker, Wang and Poston conducted the first round of editing. Poston then did the final editing of all the chapters. They were then sent back to the chapter authors for correction and review, and returned to Poston. He and his graduate student (Chris Russell) then edited again and finalized all the chapters. Chris Russell so significantly assisted in the editing of the chapters at this stage that we opted to add her as one of the editors of the book.

We also thank Evelien Bakker and Bernadette Deelen of Springer for their encouragement and for working with us so closely in the production of this book.

Of all the persons we have acknowledged, we pay special tribute to the late Richard E. Ewing, who at the time of our Roundtable in Beijing, was the Vice President for Research at Texas A&M University. He represented Texas A&M University at the Conference in Beijing in 2005. He provided funding for our roundtable, and later encouraged us in the writing and production of this book. He also wrote the book's Preface. Sadly, he died before our book was published. We dedicate our book to Dr. Ewing and his memory.

College Station, TX, USA  
Boston, MA, USA

Dudley L. Poston  
Joseph D. Tucker



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# Introduction

Joseph D. Tucker and Dudley L. Poston

China's concentrated HIV epidemic is on the brink of becoming a generalized one in several regions of the country. Social factors relating to gender and gender inequality exacerbate the spread of HIV and sexually transmitted infections (STI) in China. A better understanding of the proximate social determinants of HIV related to gender is crucial for effectively curbing HIV and other STIs in China. Aspects of China's governance, including administrative procedures, the developing legal system, social institutions, and the public health infrastructure, are all instrumental in shaping strategies and responses to HIV. Although an international consensus suggests that women who are more economically and socially vulnerable are also at greater risk of HIV infection, few initiatives have focused on discrete areas where achievable and sustainable policy measures could be meaningfully linked to the public health response. Furthermore, there has been a dearth of sociological and public health assessments and responses to the specific health needs of China's emerging surplus men.

The expansion of sexually transmitted HIV in the People's Republic of China highlights the need for prevention and treatment focused on high risk sexual groups. The UNAIDS report released in January 2006 estimated that 49% of new 2005 HIV infections were from sexual transmission, and that over 40% of those living with HIV in China were infected through sex. Commercial sex worker HIV prevalence has jumped from 0.02% in 1996 to 0.93% in 2004 (MOH/UNAIDS/WHO 2006). A greater than 1% seroprevalence of HIV in some areas suggests that the epidemic may be generalized, moving beyond high risk groups to low risk individuals.

Moving beyond a purely biomedical approach to HIV/AIDS requires inter-disciplinary work that links together various groups involved in the

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response to HIV. In 2005 a small group of U.S. and China scholars, experts, and activists came together in Beijing to consider how gender inequality affects the spread and control of HIV in China. The goals of the working group included developing a web page now available through the Peking University Institute of Population Research website, writing and publishing this book, and informing Chinese policy makers.

China's evolving population dynamics are fundamental for understanding the social context of HIV in China. In Chapter 1, Ren, Zheng, Lutz and Scherbov explore how population dynamics mediate HIV/AIDS in China. They review three population variables around which significant empirical uncertainty exists, namely, fertility rates, sex ratios at birth, and age structures. An analysis of the age structures and demographics of those living with HIV in China over time shows that younger (20–39 years old) men represent the majority of known HIV cases, but that the percentage of HIV positive women has been increasing. Since the advent of ultrasound selective abortion in the 1980s, a large number of boys have been born in China that could impact future STI/HIV transmission. In order to better quantify the potential impact of the increasing numbers of young men on HIV spread in China, Ren and Zheng explore several scenarios which incorporate different sexual mixing patterns and social changes (Merli and Hertog 2007). Their model suggests that population dynamics could have a substantial influence on sexual dynamics and heterosexual HIV spread in China.

In Chapter 2 Merli, DeWaard, Tian and Hertog explore the potential implications of male and female migration in China for the spread of HIV; they use a mathematical compartmental model of the spread of HIV. Although mathematical simulation models have been shown to be relatively unsuccessful at accurately reproducing HIV/AIDS epidemics and do not do well in forecasting the course of the Chinese epidemic, the authors show that they are useful for understanding the temporal dynamics of the spread of HIV in a population and the dynamic relationship between structural, population, and individual level factors in fueling the progression of HIV. Merli and her colleagues use the model to examine the role of migration in changing the dynamics of HIV transmission by altering population patterns of exposure to the risk of infection and HIV prevalence rates among population subgroups and by creating the conditions that lead individuals to acquire infection.

In Chapters 3 and 4, the number and characteristics of China's projected surplus group of young men are sketched. According to Poston and Zhang's demographic estimates presented in Chapter 3, the subpopulation of young unmarried men will number around 32 million, coming of age in the next ten years. Sketching their characteristics is more challenging, but using

historical examples from China reveals that they may be uneducated, migratory, and unemployed (Tucker et al. 2005). The large number of sex workers in China may well expand in order to meet the new sexual needs of this demographic group, especially in areas with higher sex ratios or areas where surplus men migrate.

Chapter 4 by Ebenstein and Jennings explores the changing demographics of China's population in the context of sexually transmitted diseases and HIV transmission. In the setting of enforced low fertility and male preference, China has far more young men than women. A subset of young, poor men who fail to marry may migrate to urban areas in search of wives and jobs. In urban areas these "bare branches" (the unmarried men) could have an increased sexual risk compared to their rural counterparts, increasing the risk of STIs and HIV. The authors propose several models of the HIV epidemic in China based on various estimates of the sex ratio at birth. Their analysis suggests that regardless of rapid changes in the sex ratios at birth, China will face a large surplus of men whose sexual behaviors could have a significant impact on the STI/HIV epidemics of China.

Chapters 5 through 8 focus on HIV/STD risk in China for both males and females. Using data sets from Yunnan Province, Yang and Xia in Chapter 5 explain how the increased sexual risk of commercial sex workers derives from their migratory behaviors. Gender inequities are exacerbated by migration from rural to urban areas in China, making the sexual behaviors of temporary female migrants more risky after arriving in cities. Poverty, gender segregation, and lack of family/social resources which differentially impact women are thought to be some of the chief mechanisms underlying this relationship. Behavioral skills and self-efficacy training among temporary female migrants is needed in order to prevent the spread of STDs/HIV among these populations.

Understanding the medical and public health needs of emerging surplus men is complicated by a paucity of studies and government surveillance. Many of these issues are discussed in Chapter 6 by Tucker and Wang. While antenatal clinic and commercial sex worker STI and HIV studies are part of the government's routine screening procedures, only devoted STI clinics appreciate the male heterosexual risk of China. Nevertheless, there have been several small studies showing that groups of young male migrants in China are at increased risk of STI/HIV (He et al. 2006; Wang et al. 2006). Tailoring interventions and STI/HIV treatment for this group will be challenging because of their low literacy, transience, and poverty. The recent HIV response has also focused more on the male component of sexual HIV transmission, as demonstrated by special programs in the Global

Fund Round Five application and the epidemiologic investigation of the NIH CIPRA program.

Chapter 7 by Yan Hong explores the potential for HIV structural interventions in China. Instead of focusing on individual behavior change, structural models of change rely on changing the matrix of social, economic, and cultural conditions that predispose a community to HIV/STI. While there are inherent problems with defining and measuring the extent of social change attributed to a structural intervention, such programs should hold great promise in the context of China's top-down oriented public health infrastructure. Drawing on several international examples, structural HIV prevention efforts are further defined and the limitations explained. Hong shows that legislative and policy reform that accelerates social change is one example of how structural interventions could help curb China's STI and HIV epidemics.

In Chapter 8, Garcia, Cortes and Poston note that STIs are a problem of enormous import in China and the world today and continue to spread at alarming rates. Indeed sexually transmitted infections are gaining a foothold in China's heterosexual population, who is at risk of infection for several reasons. These include the spread of infection via commercial sex workers in coastal provinces into mainland China by educated business men, as well as the growing number of surplus boys. Garcia and her colleagues estimate several statistical models predicting the log odds of the urine of the Chinese respondents showing the presence of an STI, of whether they responded to having had a bacterial infection in the last year, and of whether they indicated having ever had an STI.

In addition to public health interventions, legal reform (related to HIV specifically and high risk groups generally) has great capacity to catalyze HIV policy change. Legal and policy perspectives on gender and HIV in China are the focus of Chapters 9, 10, and 11. Burris and Xia (Chapter 9) show how the law influences the risk environment for commercial sex workers in China. Instead of decreasing the sexual risk of individual women, this social epidemiologic argument holds that deconstructing the risk environment should be central to HIV control. Understanding the ecological determinants and structural basis for the vulnerability of commercial sex workers is crucial for forming an effective legal and social policy response. The State Council's HIV law released in March 2006 establishes a mandate for this legal work, but changing how the law is implemented in China requires broader measures; these include the training of police officers about HIV and sexual rights, and Public Security Bureau cooperation with public health and medical centers.

In Chapter 10, Fu and Choy describe the *laojiao* (re-education) administrative system that detains tens of thousands of commercial sex workers each

year in China. Their chapter explores the legal framework, police response, and administrative detention structures that affect detention of commercial sex workers in China. The re-education system has a long history in China, and has dramatically changed in response to market reforms during the last twenty years. Understanding the administrative detention system for sex workers in China is complicated by regional variation and different interpretations of the law, but it is important for providing necessary resources to commercial sex workers. Although there are many gaps in our understanding of what happens to detained women, Fu and Choy provide valuable sources and descriptions of police structures and legal foundations.

In Chapter 11, Yu, Settle, Wang, and Manderson further explore the social and legal context of sex work in China, focusing on successful programs and how sex work can be decriminalized and de-stigmatized. Their analysis suggests that condom use programs directed to sex workers mandate cooperation with the police and Public Security Bureau. The “hard strike” campaigns of the 1990s are unlikely to be useful for HIV prevention and treatment, and may well thwart effective HIV prevention efforts. In order to identify and help those in the greatest need of HIV prevention resources, local police need to have better relations with commercial sex workers.

As the male surplus of China continues to grow, the government has incentivized having single daughters. Guangdong families that have a single daughter will receive money directly after having the daughter, and other areas of China have a policy of giving 600 RMB per year per person after the age of 60 years old. Hainan Province has worked in cooperation with the United Nations Population Fund to create structural incentives for having single daughters (Ryan 2005). However, many of the same social forces supporting son preference – gender inequality, poverty, and traditional cultural preferences – still exist today.

Chinese HIV policies that decrease the risk environment of commercial sex tend to apply a gender balanced mechanism that incorporates heterosexual male risk, and work to acknowledge the sexual rights of women are urgently needed. Preventing the sexual transmission of HIV in China represents a great challenge requiring further social science study and action. It is hoped that this book is a step in that direction.

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**Part I**  
**Chinese Population Dynamics**  
**and HIV/STD Risk**

# Chapter 1

## Uncertain Population Dynamics and HIV/AIDS in China

Qiang Ren, Xiaoying Zheng, Wolfgang Lutz and Sergei Scherbov

### Introduction

It is well known that China accounts for one-fifth of the population of the world, making China's population trends directly relevant for global population dynamics. In this context, it is surprising how much uncertainty exists about current demographic conditions in the world's largest country. Recently published estimates of China's total fertility rate for around the year 2000 range from 1.22 (NSB, 2002a,b) to 2.3 (Liang, 2003) – a discrepancy of 1.1 children per woman. There are more than 30 estimates of the fertility levels. Though most scholars and organizations consistently agree that fertility in China is below the replacement level, there are also scholars who believe that fertility in China falls below the lowest levels, and is at a par with fertility in some of the southern European countries (see Ren, 2005; Zhang and Zhao, 2006). There are probably few countries in the world where estimates about current fertility rates differ by such a large factor.

Of course, the uncertainty with regard to fertility is not the only demographic data question in China today; there is also not a consensus concerning the sex ratio at birth. Estimates for the sex ratio at birth range from 113 (Wang, 2003) to 123 (Ma, 2004). This is a remarkable difference that will significantly influence the future ratio of adult men to women in the population, and therefore its population dynamics (see the chapter in this volume by Poston and Zhang for more discussion).

Uncertainty also exists around the size of the youngest age group in China. The size of the age group 0–4 in 2000 is given as 71 million in the 2000 census, but estimated by others to be 86 million (Zhang et al.,

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