

## **Adult mortality disparities in China: evidence from censuses**

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### **Extended Abstract**

Mortality in China has reduced dramatically in the past four decades (Banister and Hill 2004; Cai 2013). However, we know relatively little about heterogeneity within China, especially regarding ethnic differences. China has 55 officially recognized ethnic minority groups, accounting for 125 million of the total population. Many of them live in remote, less-developed areas with limited health resources. This study aims to provide estimates of ethnic differences in adult mortality in China using formal demographic methods.

### **Data**

The demographic data, including population and death counts by sex, age, and ethnic groups, comes from the 1990, 2000, 2010, and 2020 censuses tabulations. The deaths by ethnic groups have not yet been published for the 2020 census.

### **Methods**

#### ***Completeness of death enumeration in censuses***

Given that our the information on deaths comes from censuses, we must be aware of the limitations related to this type of data, such as recall bias and omission (Timaeus 1991). Therefore, we begin by evaluating the completeness of death reporting in censuses for the entire nation and by ethnic groups for the four censuses, using a broad range of available methods, such as the Death Distribution Methods (DDMs) - General Growth Balance Method, Synthetic Extinct Generation Method, and SEG-Delta Method – and the Preston Integrated method (Hill 2017; Hill et al. 2009). We then use the estimates of death enumeration completeness from these methods to adjust the adult mortality rates between ages 15 and 60 for each of the three censuses that have the available information (1990, 2000, 2010).

#### ***Intercensal survival method***

In addition to the adjusted mortality rate by under-reporting of household deaths, we will also estimate adult mortality rates using the intercensal survival method for each intercensal period 1990-2000, 2000-2010, 2010-2020. This method will allow us to get more recent estimates for the period including the most recent census and is an alternative to the lack of data on household deaths by ethnic groups in the 2020 census.

#### ***Mortality differentials between groups***

We will have three different set of estimates from these different methods: unadjusted probabilities of adult mortality, adjusted by death under-enumeration, and estimated from intercensal survival

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method. This will allow us to look at the trends in mortality differentials between and across groups.

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