OLD AGE MORTALITY IN EASTERN AND SOUTH-EASTERN ASIA

Danan Gu, Patrick Gerland, Kirill Andreev, Nan Li, Thomas Spoorenberg, and Gerhard Heilig

Danan Gu, Ph.D. (corresponding author)
United Nations Population Division, DESA
2 UN Plaza, DC2-1910
New York, NY 10017
Tel: 1-917-367-9192
Email: gud@un.org

Patrick Gerland, Ph.D.
United Nations Population Division, DESA
New York, NY 10017
Email: garland@un.org

Kirill Andreev, Ph.D.
United Nations Population Division, DESA
New York, NY 10017
Email: andreev@un.org

Nan Li, Ph.D.
United Nations Population Division, DESA
New York, NY 10017
Email: li32@un.org

Thomas Spoorenberg, Ph.D.
United Nations Population Division, DESA
New York, NY 10017
Email: spoorenberg@un.org

Gerhard Heilig, Ph.D.
Former Chief, Section of Estimates and Projections,
United Nations Population Division, DESA
Email: gerhard.heilig@gmail.com

Disclaimer: Views expressed in this chapter are solely those of the authors and do not necessarily reflect those of the United Nations. The country names in the study do not necessarily reflect the UN official terminology.
BACKGROUND
Eastern and South-Eastern Asia has witnessed a marked decline in old age mortality in recent decades. Yet no studies have investigated the trend and patterns in overall mortality and cause-of-death.

Objective
Review the trend and patterns of old age mortality and cause-of-death for countries/territories in the region.

Methods
We presented data on old age mortality in terms of life expectancy at age 65 and age-specific death rates from the 2012 Revision of the World Population Prospects for 14 countries/territories in the region (China, Hong Kong SAR (hereafter Hong Kong), Democratic People’s Republic of Korea, Indonesia, Japan, Lao People’s Democratic Republic, Myanmar, Malaysia, Mongolia, Philippines, Republic of Korea, Singapore, Thailand, and Viet Nam), and data on cause-of-death from the WHO for five countries/territories (China, Hong Kong SAR, Japan, Republic of Korea, and Singapore) from 1980 to 2010.

Results
While mortality transitions in these populations took place in different times, levels of socioeconomic development and living environment, changes in their age patterns and sex differentials in mortality showed certain similarities: women witnessed a similar decline to men in spite of their lower mortality and young elders had a larger decline than the oldest-old. In all five countries/territories examined for cause-of-death, most of the increases in life expectancy at age 65 in both men and women were attributable to declines in mortality from stroke and heart diseases. GDP per capita, educational level, and urbanization explain most of the variation in life expectancy and variations in cause-specific mortality, indicating critical contributions of these basic socioeconomic development indicators to the mortality decline over time in the region.

Conclusions
These findings shed light on the relationship between epidemiological transition, changing age patterns of mortality and improving life expectancy in these populations.
REFERENCES


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Outline

1. Rationale & Objectives
2. Data and Methods
3. Major Findings
4. Limitations
Why Study Old Age Mortality in Eastern and South-Eastern Asia?

**Fig 1. e65 (both sexes) by region, 1950/55 - 2005/10**

Sources: 2012 WPP database (UNPD)

**Fig 2. e65 (both sexes) by country in the region, 1950/55 - 2005/10**

Sources: 2012 WPP database (UNPD)
Why Study Old Age Mortality in Eastern and South-Eastern Asia?

Fig 3. $e_0$ (both sexes) by country in the region, 1950/55-2005/10

Sources: 2012 WPP database (UNPD)

Objectives

1. Review trends, age patterns and sex differentials in old age mortality rates and e65 in the region and by country

2. Review major causes of death and their contributions to changes in e65 (Pollard, 1982; Klenk et al. 2007)
Data Sources

1. UN Pop. Div. World Population Prospects (WPP) 2012 Revision
   
   -- e65, Mx from 1995 to 2010
   
   >> 14 countries/territories: [China, Hong Kong SAR, D.P.R. Korea, Indonesia, Japan, Republic of Korea, Myanmar, Malaysia, Mongolia, Philippines, Singapore, Thailand, and Viet Nam ]
   
   • Excluding: Macao SAR, Brunei Darussalam, Timor-Leste.

2. World Health Organization

   -- Cause of death from 1980 to 2010
   
   >> 5 countries/territories: China, Hong Kong, Japan, Republic of Korea, and Singapore

   >> ICD9, ICD9B, ICD10

Methods

<table>
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<tr>
<th>Broad Causes of Death</th>
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Countries and years:


Major Findings

1. Old-age mortality rates and e65

- Mortality rates at all ages in all countries had a sizeable reduction (or e65 had a noticeable increase), yet not uniform
  
  • Greater decline among young elders aged 65-74 than in oldest-old (consistent with some European studies (Janssen et al. 2007))
  
  • Greater decline for females (in line with adult mortality pattern in the region (Zhao, 2011))
  
  • Greater decline in higher income countries/territories

Major Findings: trends

Fig 4. e65 for selected countries in the region, 1980/05 - 2005/10

- Higher e65 for female, and faster progress than males
  
  - Overall general increase, but lack of convergence between countries
### Major Findings: trends by sex

#### Table 1. Gender difference (years) at e65 by study country

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**Gender gap**
- **constant or increase**

### Major Findings: improvements by age

#### Fig 5. Proportion declined in death rate, 1995/2000 -2005/10

- **Greater decline among young elders**
- **Improvements in almost all countries and ages**
2. Cause-specific deaths

- Mortality due to stroke in all 5 countries decreased for both men and women; Mortality due to heart diseases also similar
  - falling of cardiovascular diseases, as it was in Europe (Glei, Meslé, and Vallin 2010; Vallin and Meslé, 2001) and Latin America (Palloni and Pinto-Aguirre 2011)
  - structure of deaths in accordance with adult pattern (Zhao, 2011)

- Increase in cause of death due to diabetes in China, and Rep. of Korea

- Great variation across countries in age-standardized causal structure of deaths
Major Findings: improvement patterns

Fig 6. Age standardized death rates (ages 65+) by cause and country, Women

Fig 7. Ratios of death rate in 2000 or 2005 vs. 1980 or 1985 by cause and age
Contributions of change in Mx by cause of death to changes in e65

- Most of the increases in e65 for both men and women attributable to declines in mortality from stroke and heart diseases

- Stroke was the greatest contributor to the increase in e65 in Japan (28-29% and Hong Kong (22-25%)

- Heart diseases played a larger role in Republic of Korea and Singapore
Major Findings: contributions to e65

Fig 8. Contributions of causes of death to e65, 1980-2009, Women
Limitations

• Data quality and availability is still a concern for the region.
• Cohort change not concerned/discussed
• Short study period
• Not all countries are analyzed, especially in cause-of-death analysis
• Associations with socioeconomic developments needs further investigation

Thank You!

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