

香港人口轉化為「全世界最長壽」的解讀

Hong Kong's journey to become
the world's longest living population



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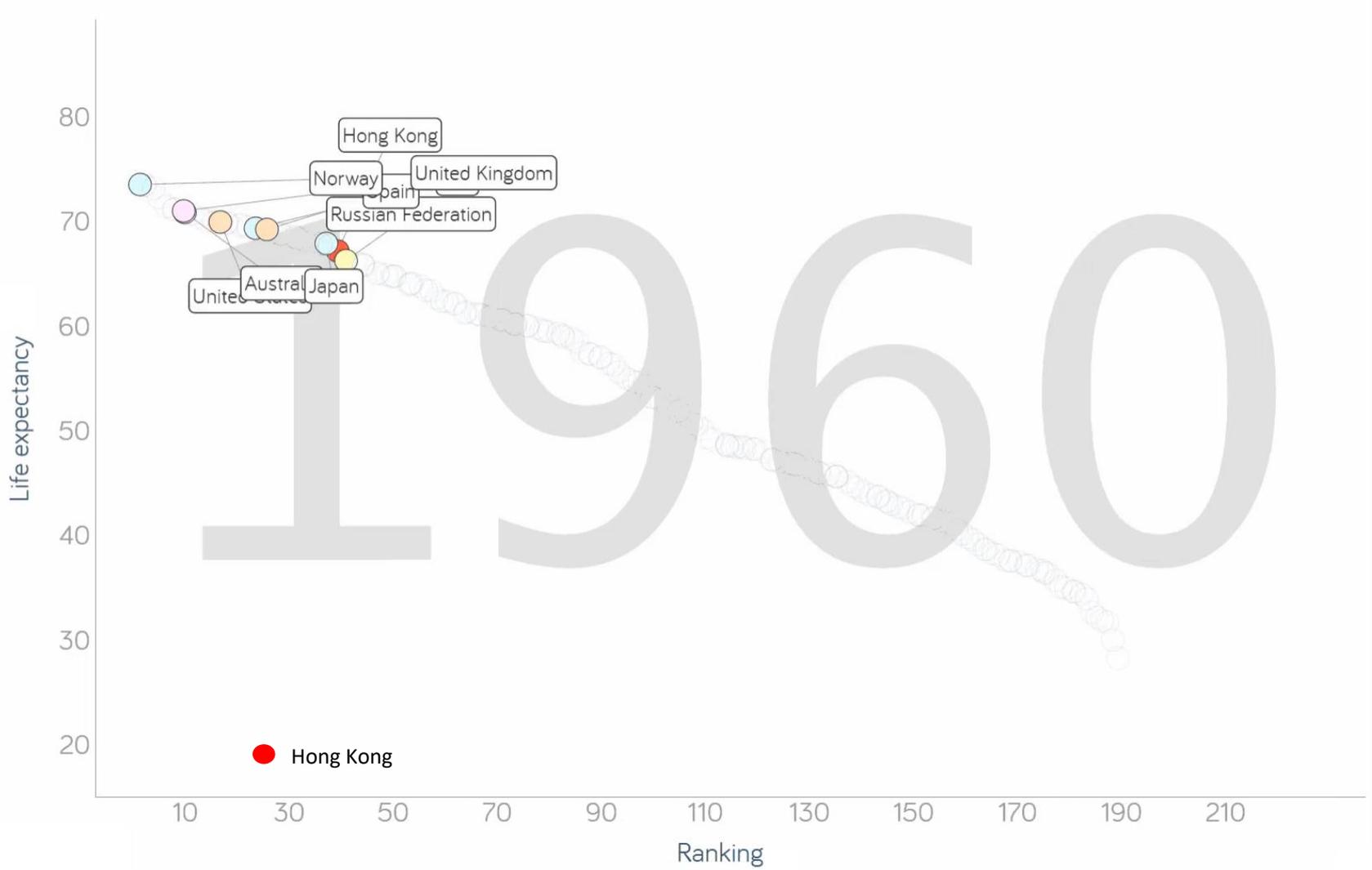
**CU
NY** THE CITY
UNIVERSITY
OF
NEW YORK



Australian
National
University



UNIVERSITY OF GHANA



When

life expectancy gains in Hong Kong took place



Joinpoint analysis

Who and What

age- and disease-groups contributed

Arriaga's decomposition

Life Expectancy

Why

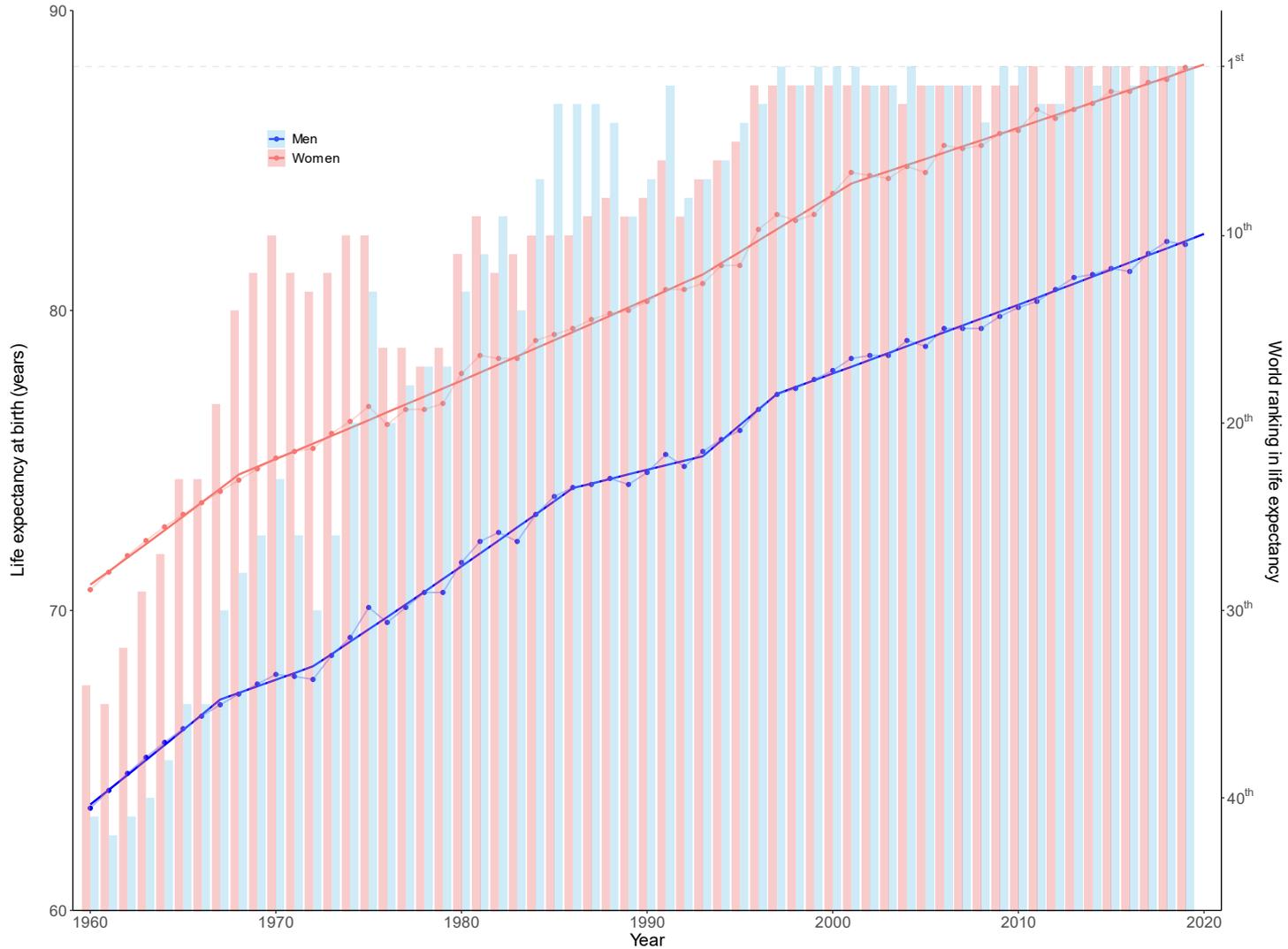
Comparative mortality study

Truncated cross-sectional average of life (TCAL)

Smoking-attributable mortality

Life expectancy of migrants vs. natives





Leveraging big data sources



1,424,522

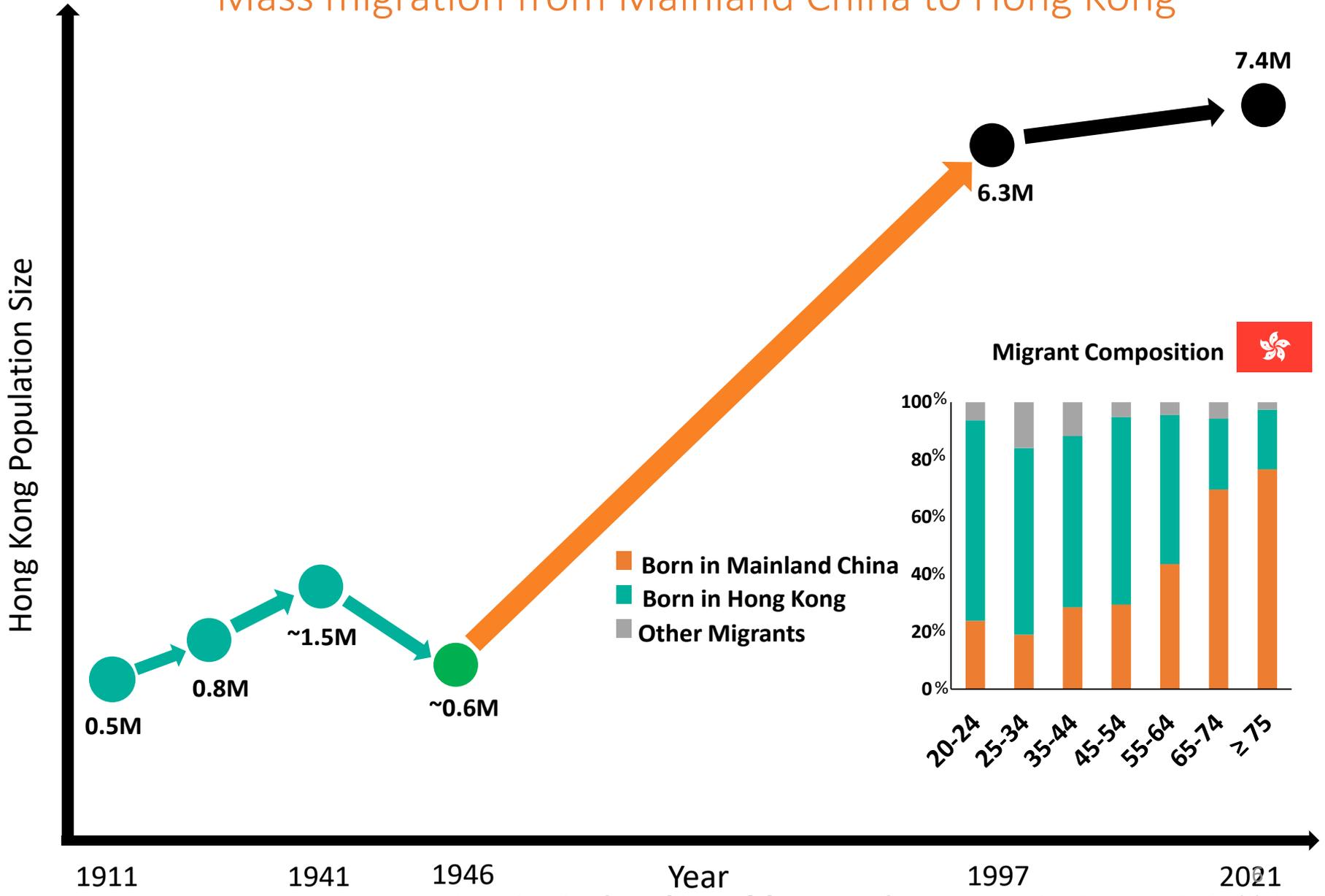
death records from Hong Kong's
Census & Statistics Department
since 1979



>30 countries in the
Human Mortality Database &
WHO Mortality Database
since 1835

263 million deaths around the world

Mass migration from Mainland China to Hong Kong



Burns JP. Immigration from China and the Future of Hong Kong. *Asian Survey*. 1987;27(6):661-82.

Life expectancy in Hong Kong by migrant status in 2016

Region	Life expectancy at birth		Life expectancy at age 50	
	Male	Female	Male	Female
Hong Kong				
Overall	81·27	87·30	32·76	38·28
Natives	84·65	89·60	36·15	40·63
All migrants	77·93	85·68	31·57	37·29
Migrants from Mainland China	77·11	83·01	31·11	36·90
Japan	80·99	87·17	32·56	38·24
UK	79·22	82·88	31·34	34·29
US	76·36	81·36	30·04	33·64
18 OECD high-income countries*	79·40	84·03	31·29	35·24
*Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK and US				

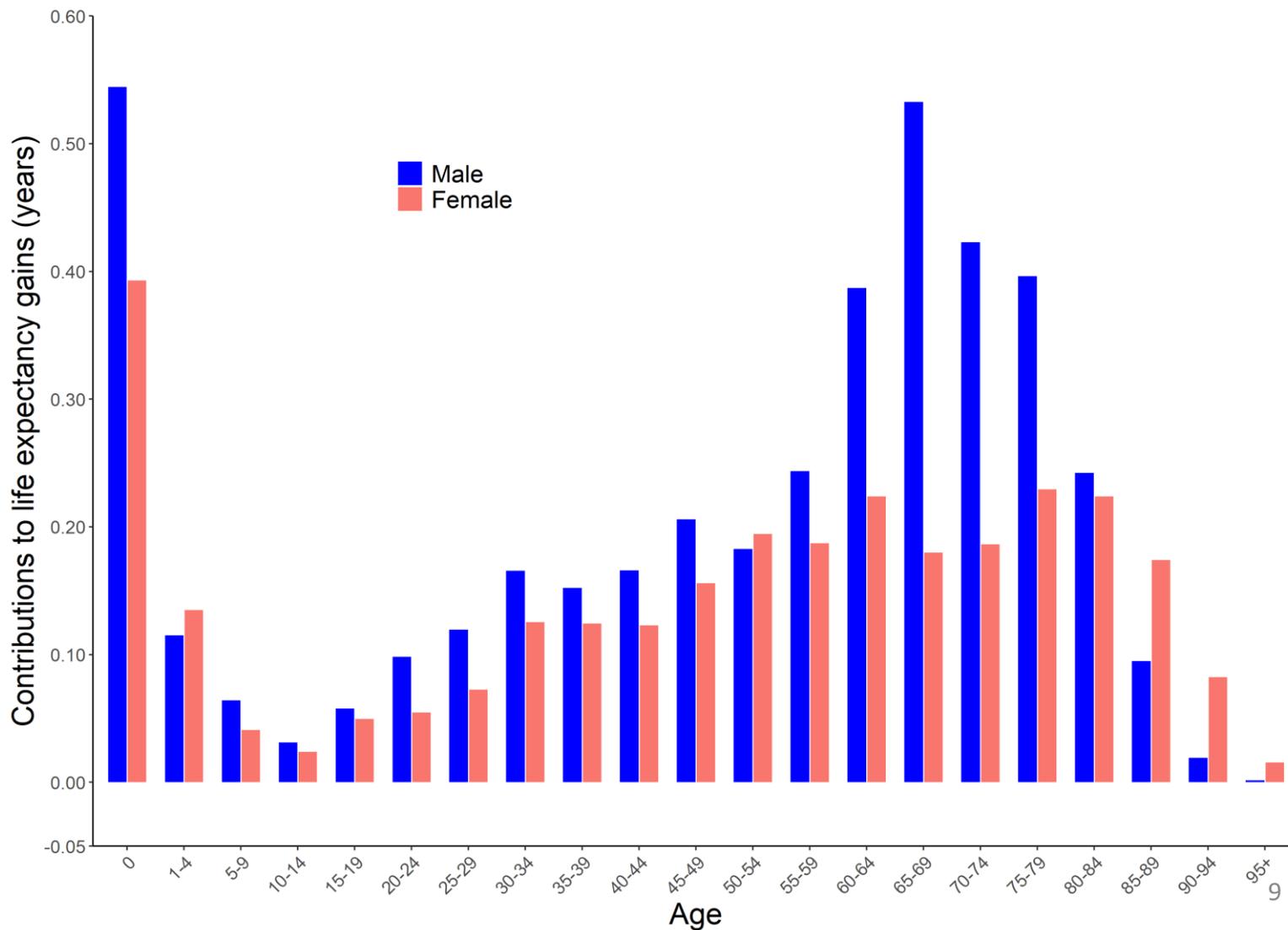
Life expectancy in Hong Kong by migrant status in 2016

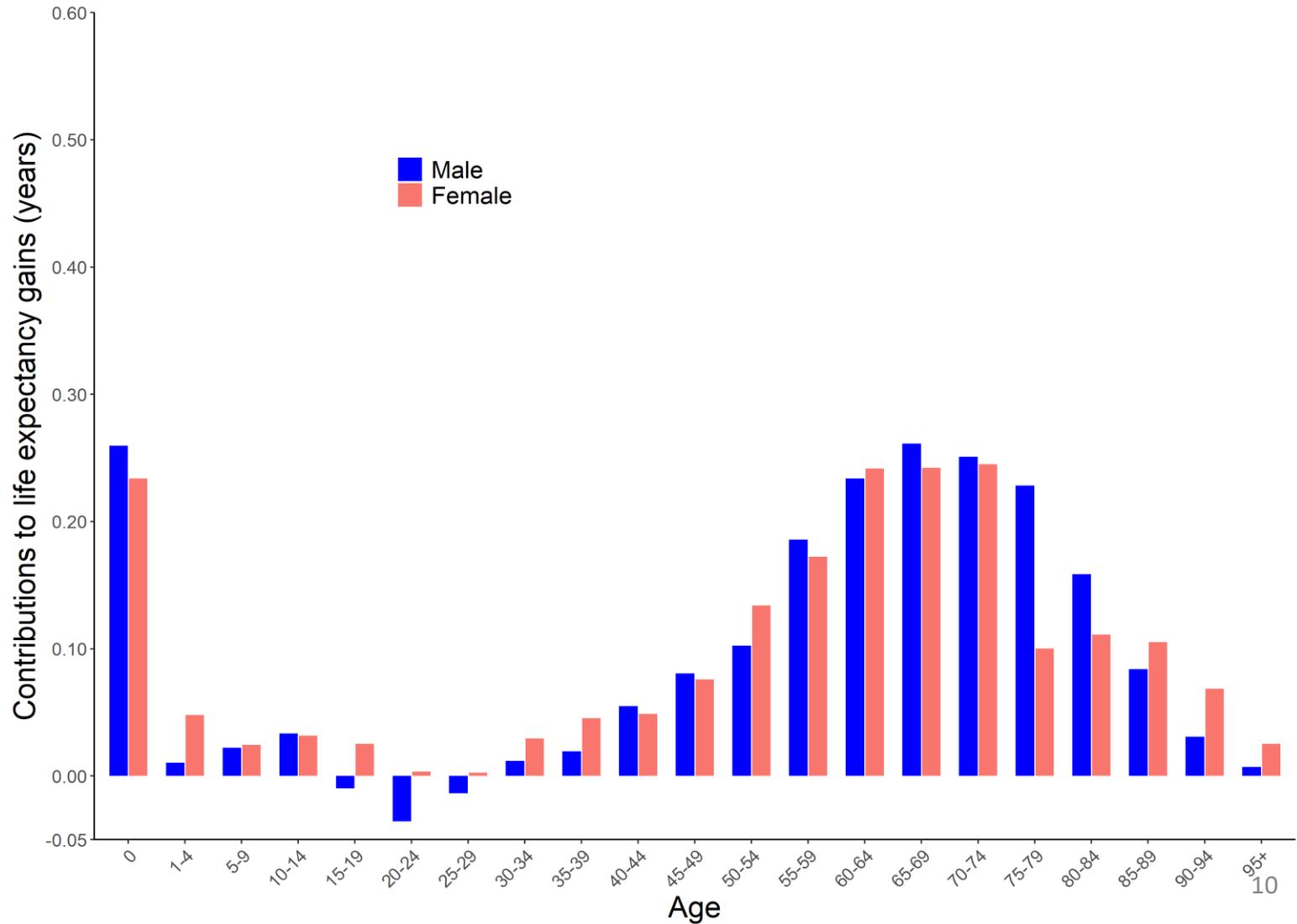
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Arriaga's decomposition

Age group-specific contributions to life expectancy gains among men and women

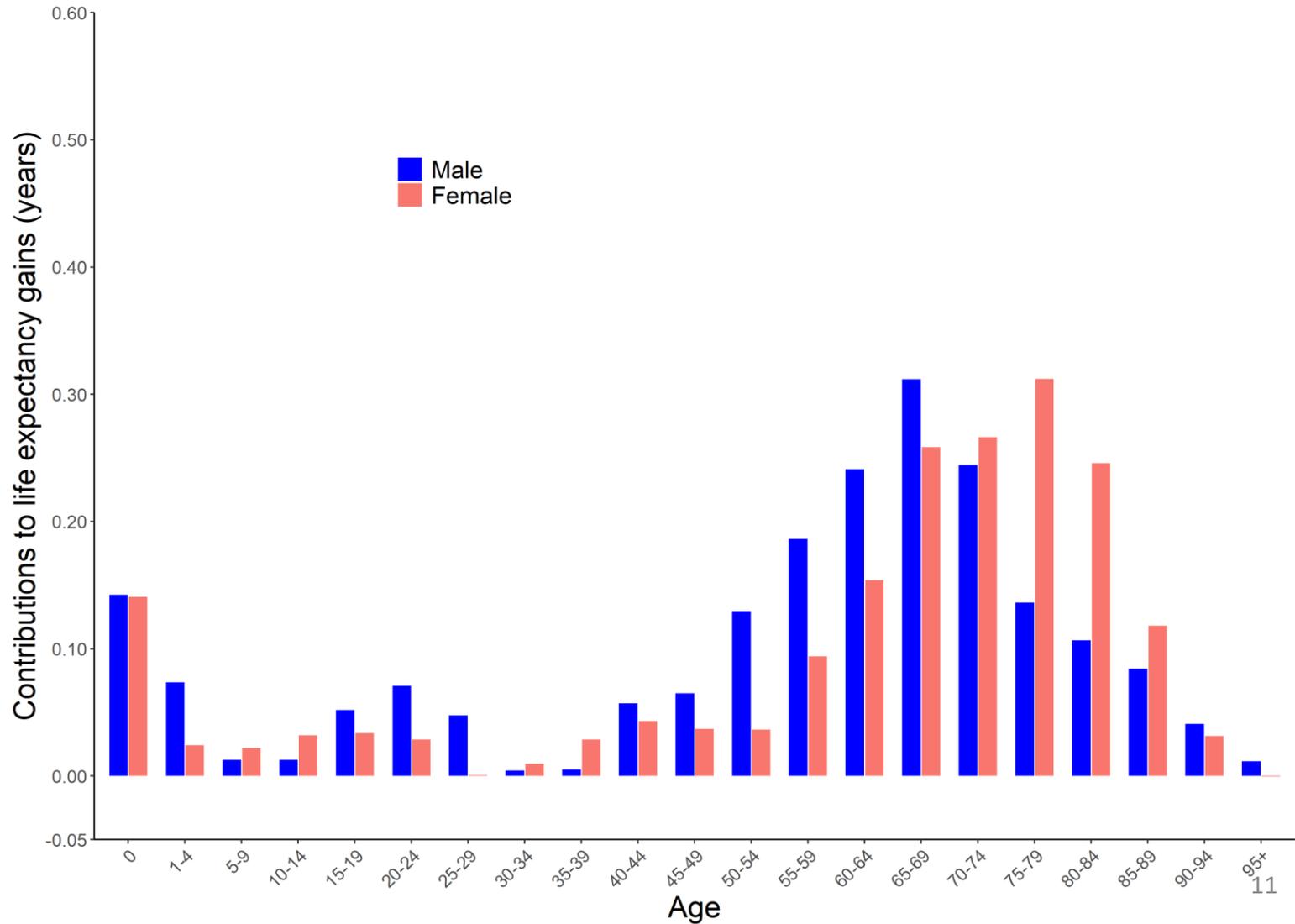
1976-1985





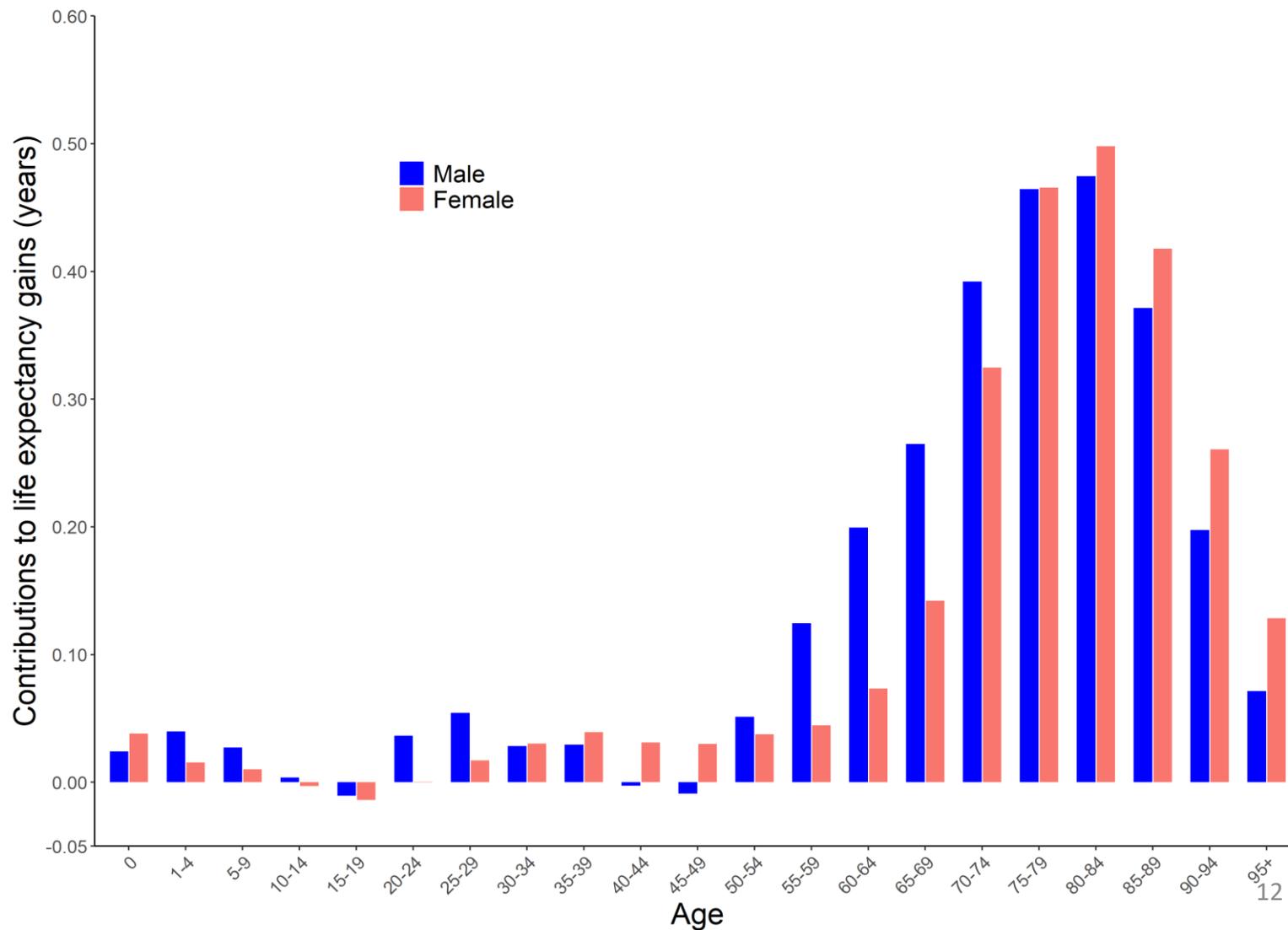
Arriaga's decomposition
Age group-specific contributions to life
expectancy gains among men and women

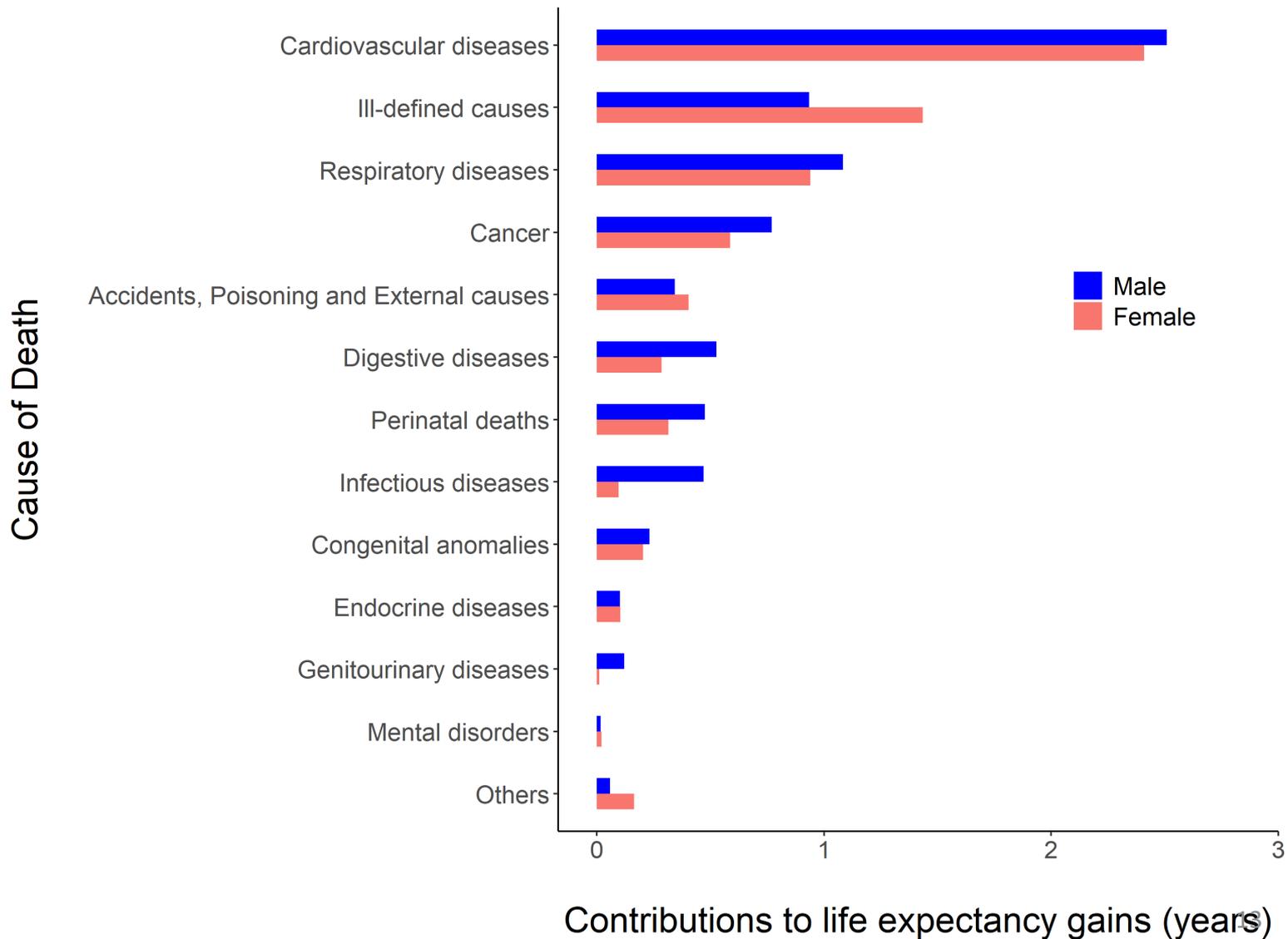
1996-2005



Arriaga's decomposition
Age group-specific contributions to life
expectancy gains among men and women

2006-2019

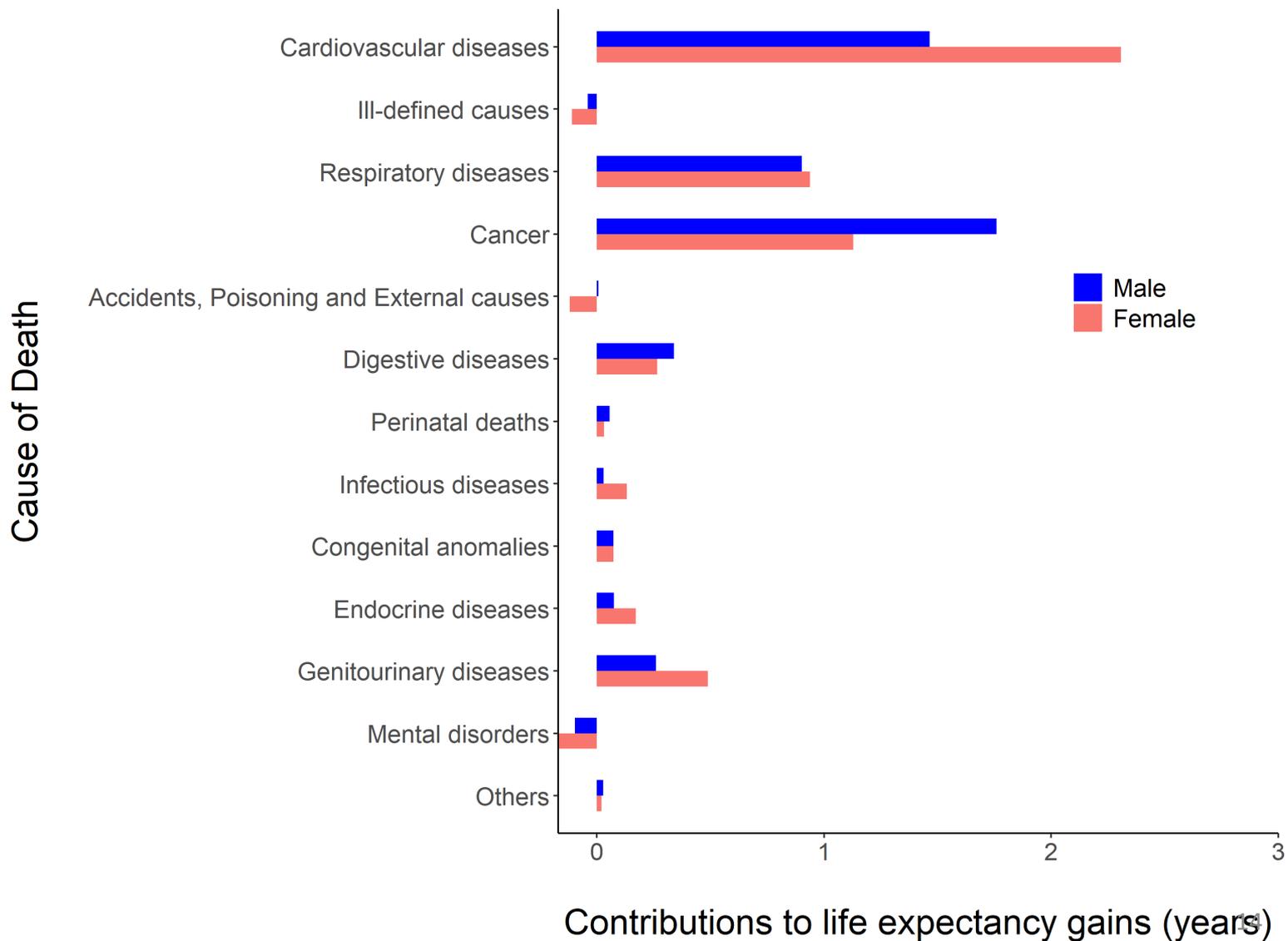




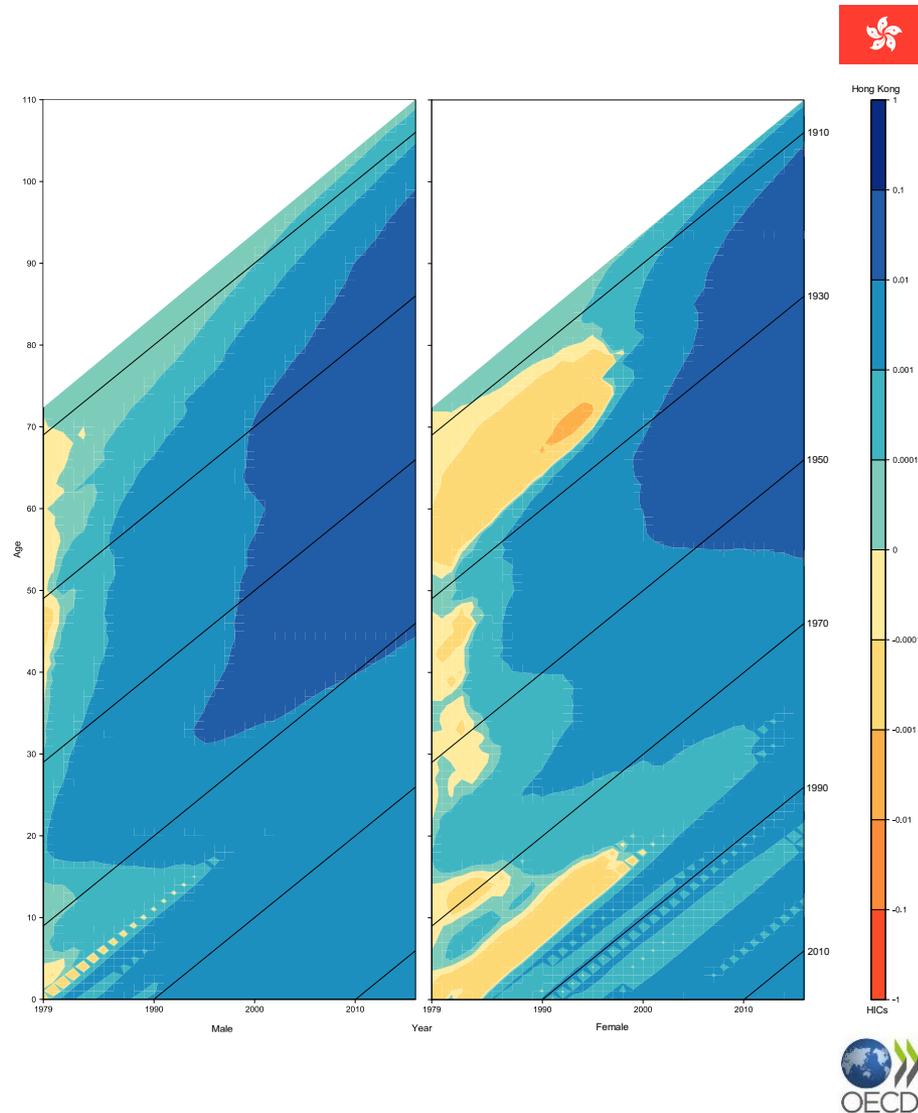
Arriaga's decomposition

Disease group-specific contributions to life expectancy gains among men and women

1998-2019



Relative gains in longevity in Hong Kong compared to high-income countries

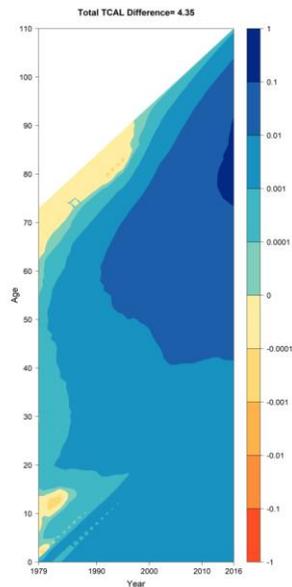


Truncated Cross-sectional Average Length of Life (TCAL)

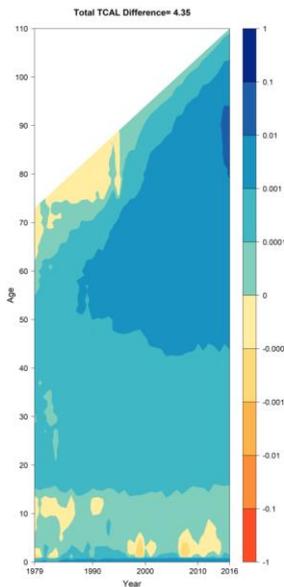
Truncated Cross-sectional Average Length of Life (TCAL) is a summary measure for all of the available mortality history of cohort populations, and is the closest measure to the true average longevity of populations. Here we used TCAL to identify the cohorts, ages and causes of death contributing to differences in survival between Hong Kong and high-income countries.

ALL CAUSES CAUSE DECOMPOSITION COMPARISON FIGURE

Lexis surface of cumulative cohort survival comparisons between Hong Kong and USA among females in 1979-2016



Lexis surface of non-cumulative cohort survival comparisons between Hong Kong and USA among females in 1979-2016



Select sex
 Male
 Female

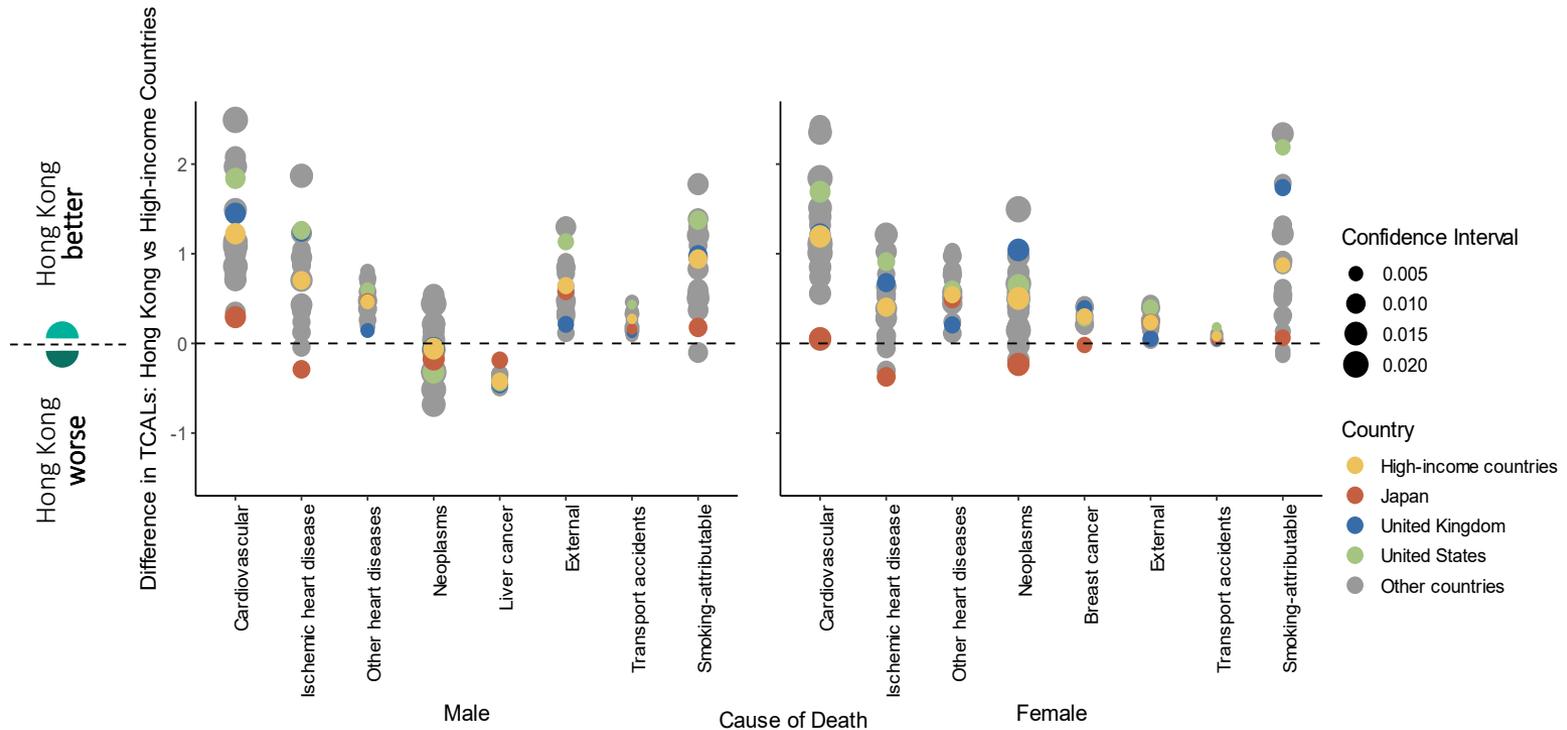
Select country
 USA

Select disease

Interactive data visualisation

<https://longevity.sph.hku.hk/>

Note: The blue areas correspond to the survival advantage in Hong Kong, while the yellow/red areas correspond to the survival advantage in USA. The cause decomposition of TCAL comparison was analyzed over ICD-9 and ICD-10 codes.



Hong Kong's survival advantage due to:-



- Lowest mortality for cardiovascular diseases
- One of the lowest mortality for neoplasms in females
- Lowest mortality for transport accidents

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life expectancy gains in Hong Kong took place



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Smoking-attributable mortality

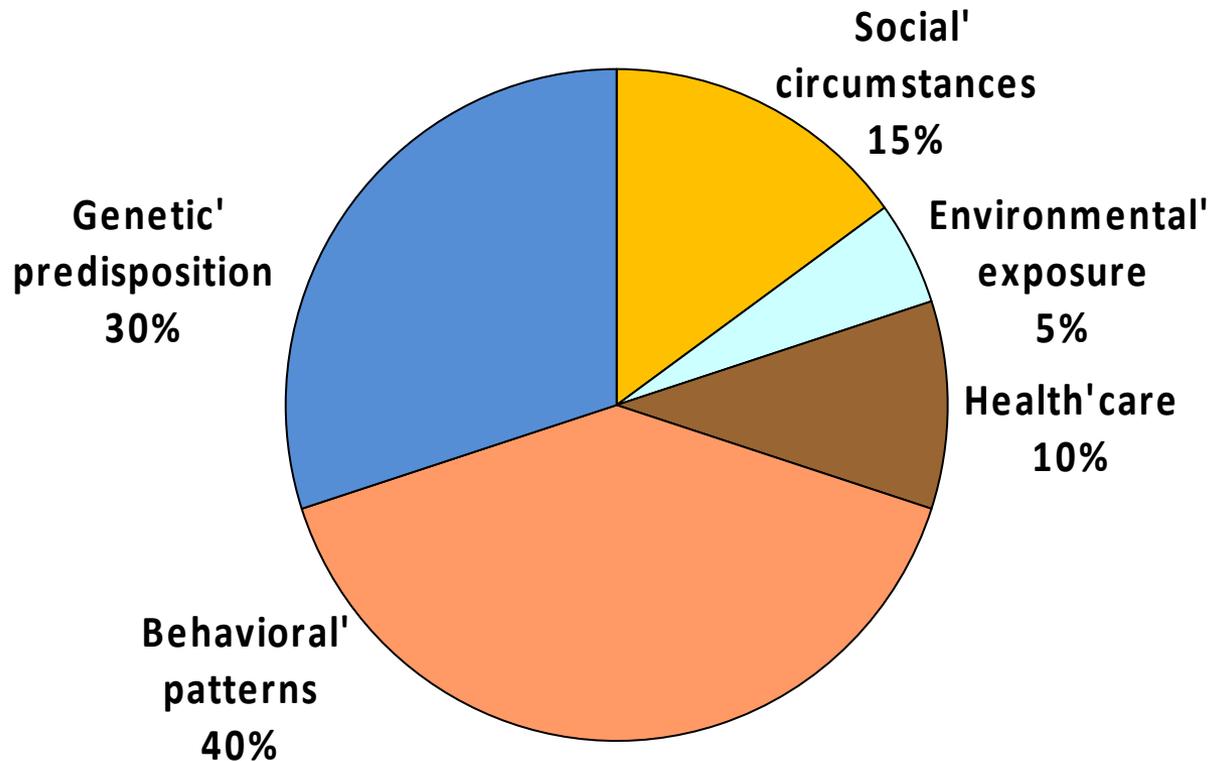


**Life
Expectancy**



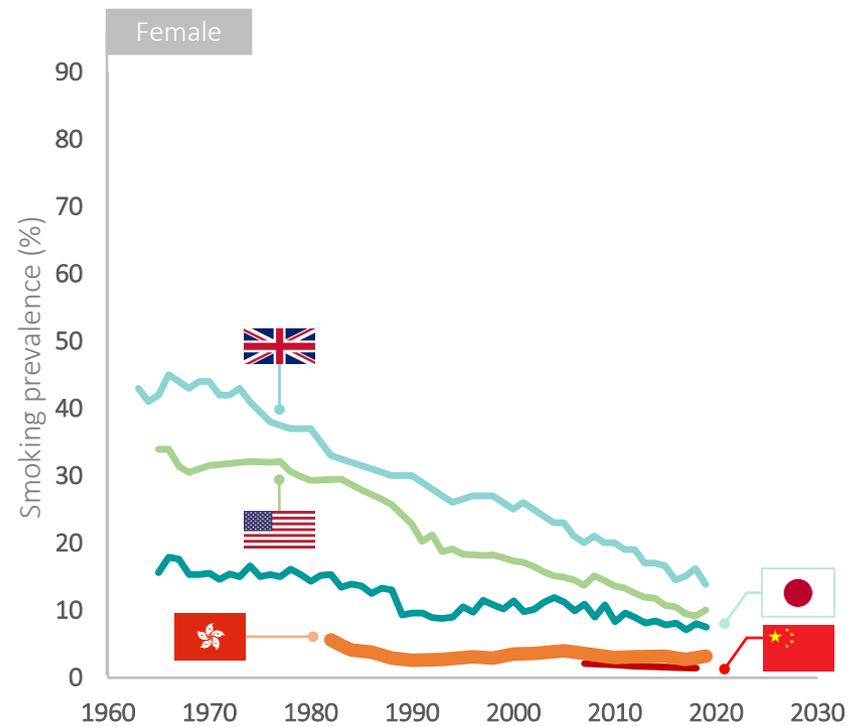
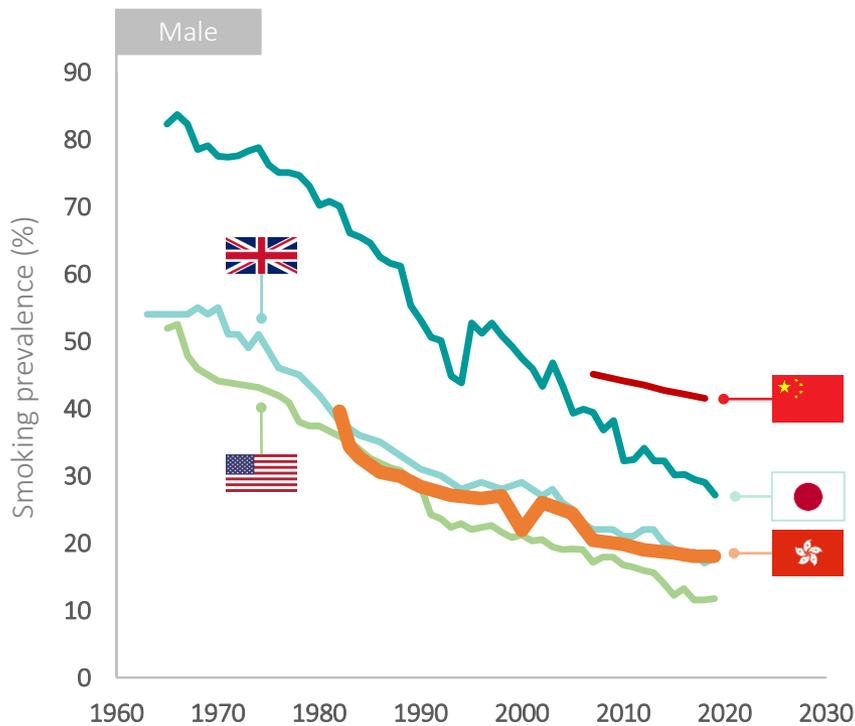
Life expectancy of migrants vs. natives

Contributions to premature mortality

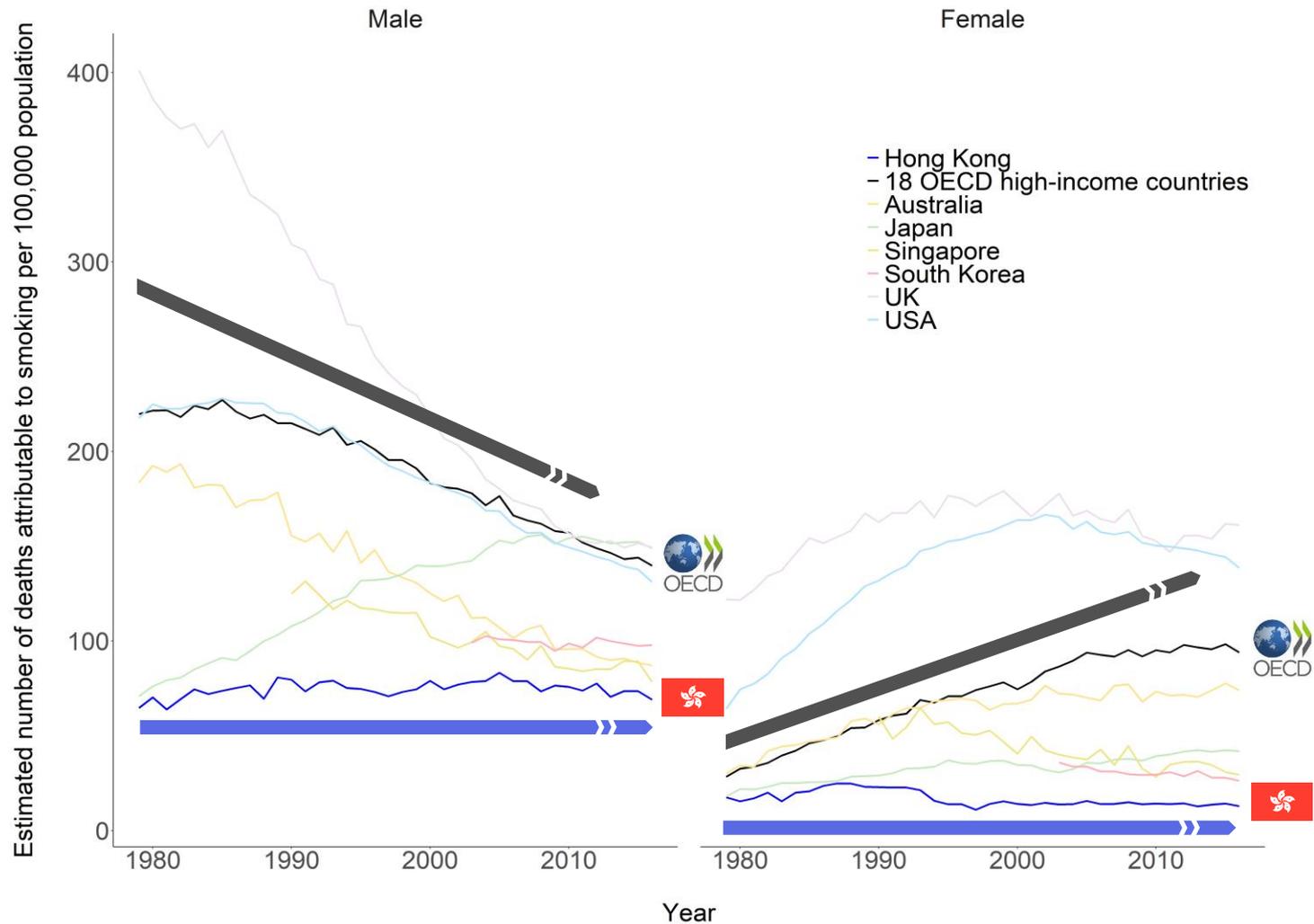


Adapted from: McGinnis JM & Foege WH. Actual causes of death in the United States. JAMA 1993; 270(18):2207-12 (Nov 10); McGinnis JM, Williams-Russo P, & Knickman JR. The case for more active policy attention to health promotion. Health Affairs 2002; 21(2):78-93 (Mar).

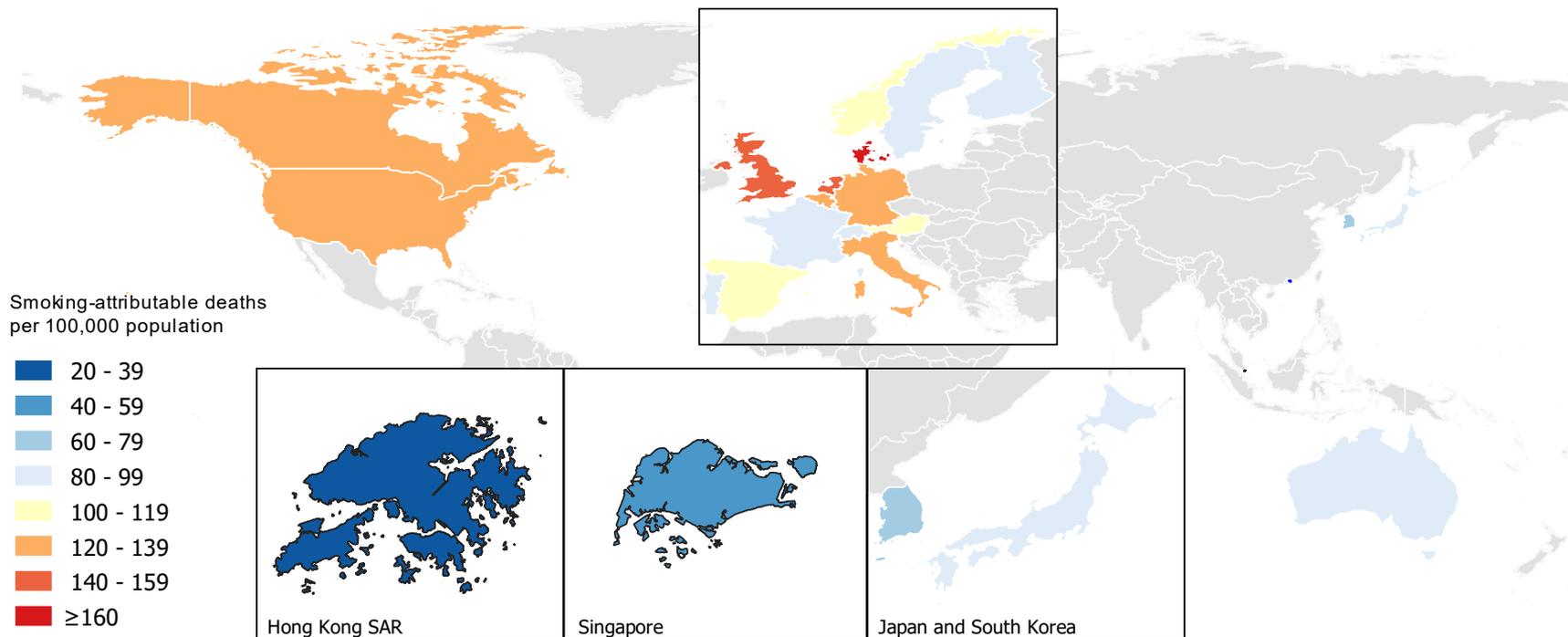
- ▶ On average, smokers die 10 years earlier than non-smokers
- ▶ Smoking is the single largest cause of preventable death



Smoking-attributable mortality in Hong Kong and high-income settings



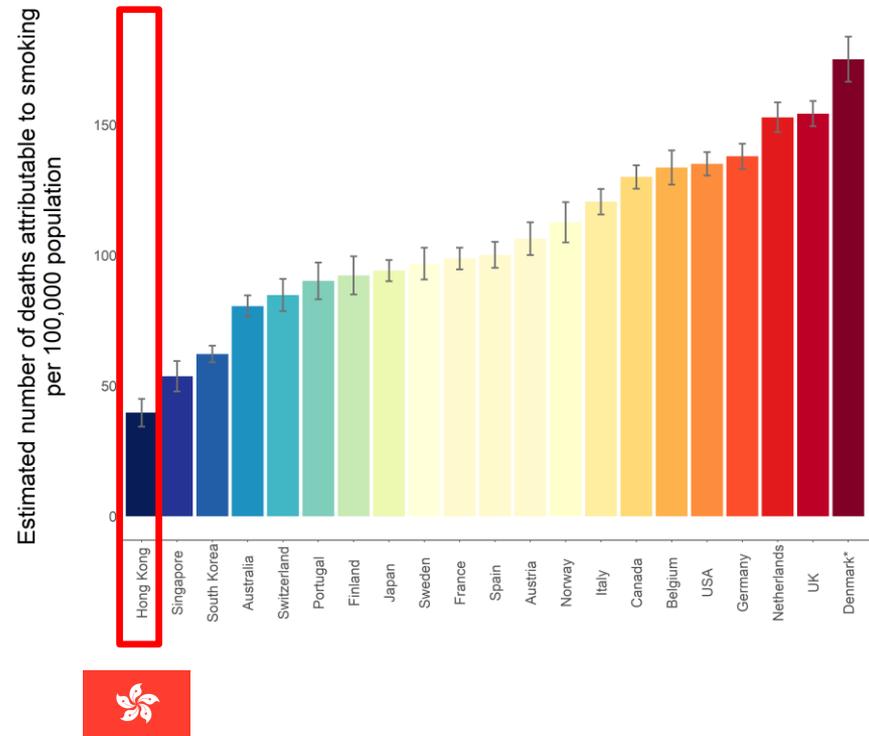
Number of smoking-attributable deaths (per 100,000 population per year)





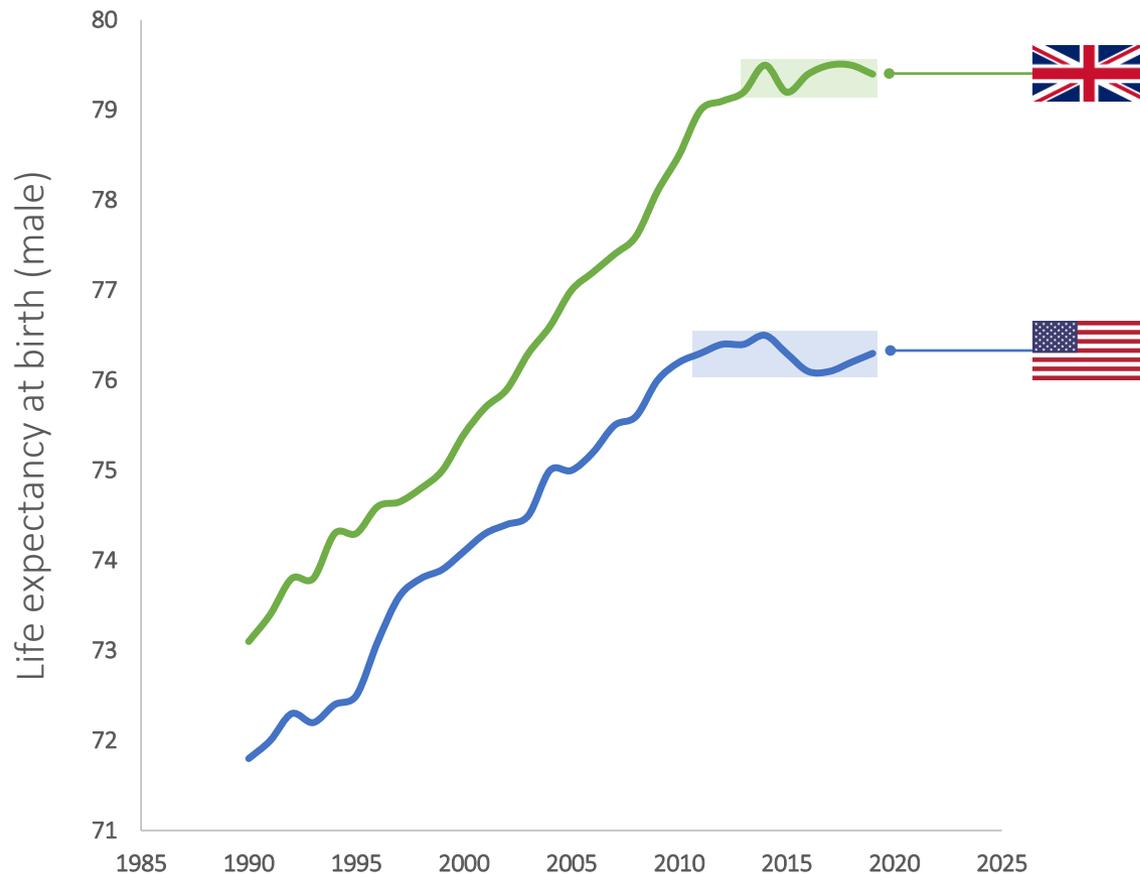
Why lower cardiovascular and female cancer mortality?

- Underpinned by Hong Kong's successful tobacco control
- HK achieved the lowest smoking-attributable mortality in high-income settings
- Contributed to 50.5% and 34.8% of Hong Kong's survival advantage over males and females in high-income countries, respectively.



Implications for Smoking (Public Health) Amendment Bill

To maintain Hong Kong's world-leading life expectancy, stronger tobacco control policies are needed.



Implications for Smoking (Public Health) Amendment Bill

Allowing Heated Tobacco Products (HTPs) will lead to:-

- Rapid re-normalisation of tobacco use
- Substantial increase in youth smoking of HTPs and cigarettes
- Rising morbidity and mortality.

Implications for Smoking (Public Health) Amendment Bill

- Heated Tobacco Products and electronic cigarettes are very harmful but very attractive to young people
- Parents, education, health and social welfare sectors and a great majority of the population have provided the strongest support for a total ban of heated tobacco products
- Urge the Legislative Council to support a total ban as soon as possible