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**The risk perception and adaptation behaviors to
heat waves in Guangdong province, China**

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BACKGROUND

- China has experienced noticeable changes in its climate.
- Annual average air temperature has risen by 0.5-0.8°C
- In Guangdong province of southern China, the annual average air temperature increased from 21.4°C in 1960s to 21.9 °C in 1990s, with an increase of 0.5 °C
- There is now widespread consensus that global climate change will have significant adverse impacts on human health

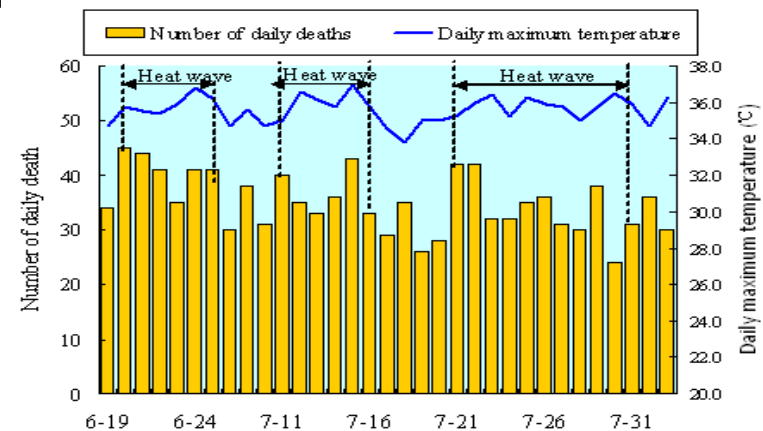
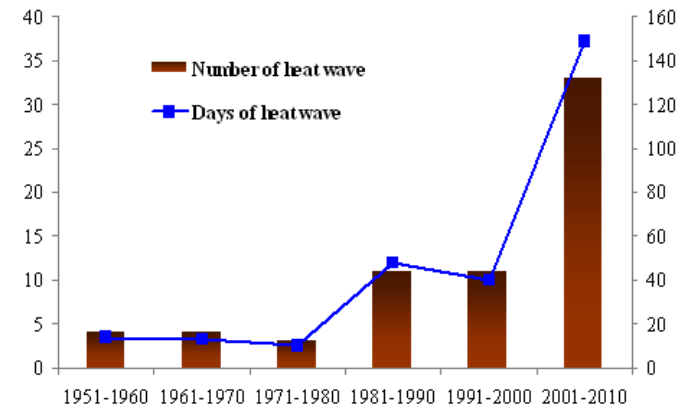


- As a part of the project of Adapting to Climate Change in China (ACCC), Guangdong CDC is undertaking the first comprehensive study in China into the health impacts and adaptation policy of climate change.
- This presentation summarizes some findings from this research.



The prevalence of heat waves in Guangzhou between 1950 and 2010

- The frequency and intensity of heat wave from 1951-2010 increases largely.
- A significant link between heat wave, total mortality, cardiovascular disease, respiratory disease and cerebrovascular disease existed.



Risk perception and adaptation behaviors to heat wave in Guangdong province

- The prevalence of people who heard about heat wave.
- 38.52% of subjects thought the heat wave had higher impact on their health (risk perception score of heat wave ≥ 5 points).

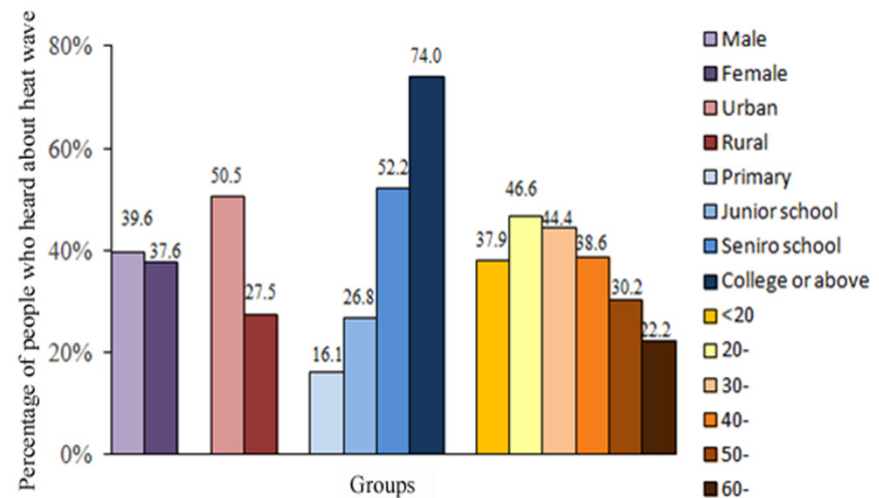


Table 1. Risk perception of heat wave in the public of Guangdong province

Variables	Risk perception score	F/t	P	Variables	Risk perception score	F/t	P		
	Mean ± S.D				Mean ± S.D				
Gender		1.55 [#]	0.121	Occupation		3.47	0.001		
Male	4.2 ± 1.5			Agriculture, forestry, animal husbandry and fishery	4.1 ± 1.3				
Female	4.3 ± 1.4			Person in service trade	4.2 ± 1.4				
Age (years)		6.76	<0.001	Person in charge in institute	4.4 ± 1.7			5.97	<0.001
<20	3.8 ± 1.5			Technician	4.5 ± 1.6				
20-29	4.1 ± 1.4			Military and student	3.9 ± 1.5				
30-39	4.5 ± 1.5			Unemployment and retirement	4.2 ± 1.4				
40-49	4.3 ± 1.5			Others	4.2 ± 1.3				
50-59	4.1 ± 1.4			Family month income per person (yuan)					
≥60	4.3 ± 1.5			< 500	4.2 ± 1.3				
Education		14.72	<0.001	500-999	4.1 ± 1.6			7.96 [#]	<0.001
Elementary school or lower	4.1 ± 1.3			1000-1999	4.4 ± 1.5				
Junior middle school	4.1 ± 1.4			2000-4999	4.4 ± 1.5				
Senior middle school	4.1 ± 1.5			5000-9999	4.1 ± 1.5				
College or above	4.7 ± 1.5			≥10000	4.1 ± 1.3				
Didn't answer	4.1 ± 1.3			Don't know or refused to answer	4.0 ± 1.4				
				Region					
				Urban	4.5 ± 1.6				
				Rural	4.0 ± 1.3				
				Total	4.2 ± 1.5				

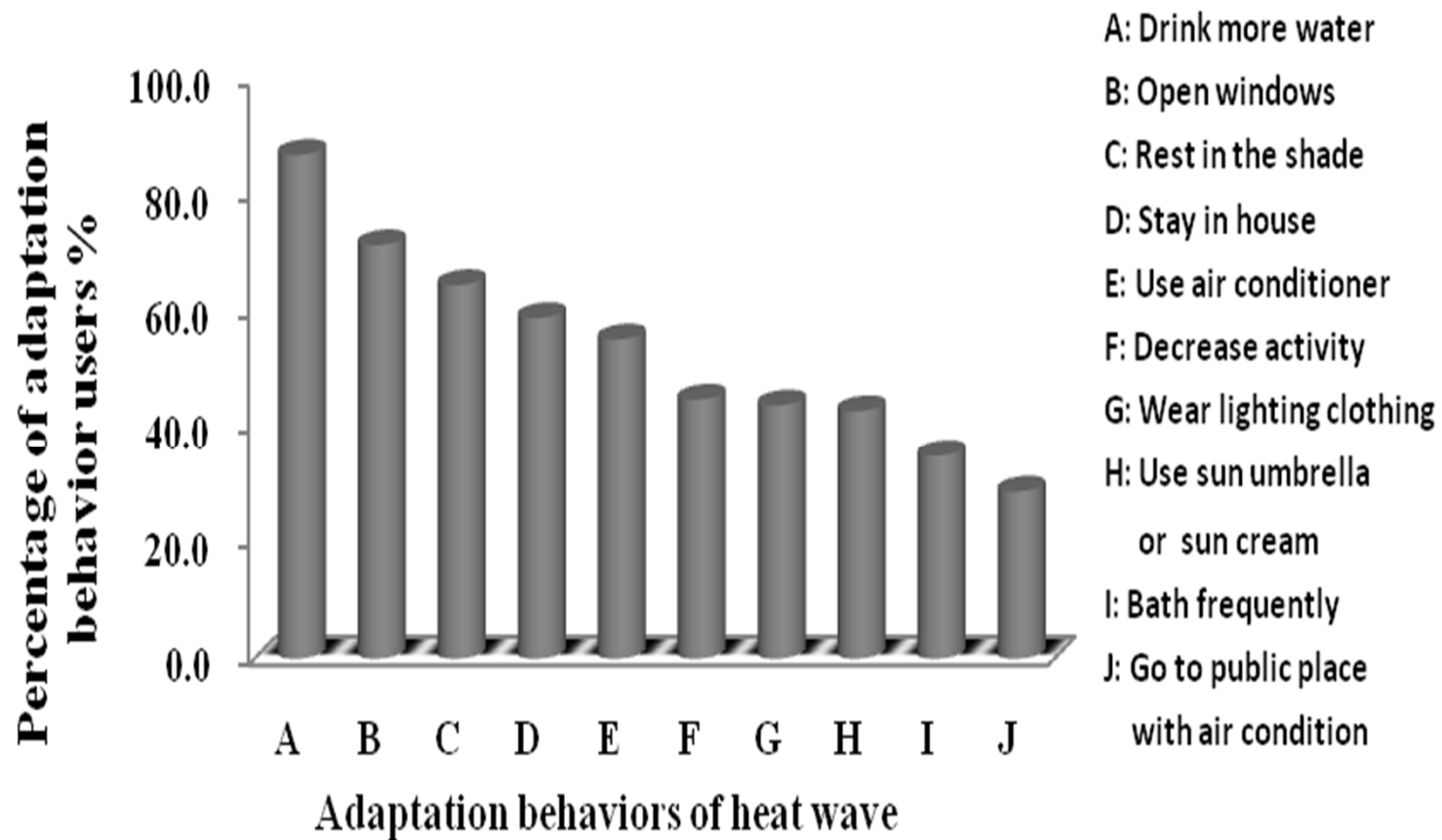
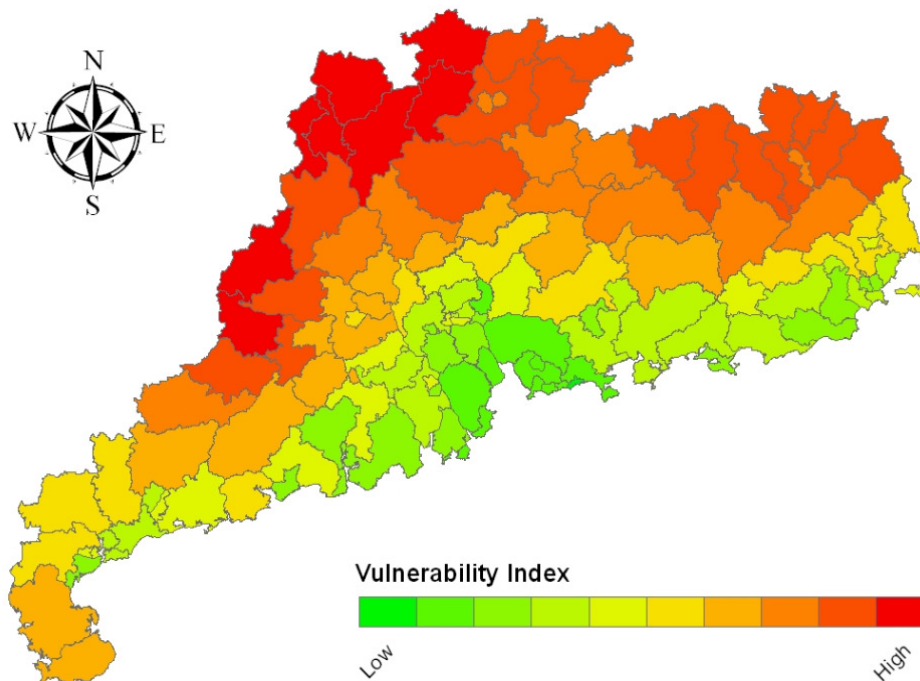


Fig 2. The percentage of adaptation behaviors to heat wave in the public of Guangdong province



Vulnerability assessment of heat wave in Guangdong province

- The vulnerability of heat wave in 124 counties or districts of Guangdong province shows a gradient of change from north to south (The Pearl River Delta).



Conclusions

- With the increase of temperature, the frequency of heat-haze in Guangdong province is becoming higher and higher.
- There is a lower level of risk perception of heat wave in the public.
- The rate of taking adaptation behaviors during the heat wave was high in the public. However, some useful adaptation behaviors were lower, especially in rural area, such as air conditions.
- The vulnerability to heat wave was higher in north area, but lower in south area.



Policy messages

- Monitoring systems on temperature and public health should be built up and improved in public.
- Risk communication strategies and adaptation planning should be developed to improve risk perception and adaptation behaviors of climate change. The areas with higher vulnerability to heat wave may have the priority.





Thanks

