Asia-Pacific Regional Symposium 2016

23 February 2016, Brisbane

Risk Communication for Emergency Management of Pandemic Prevention and Control in China: A Comparative Case Study of SARS and H7N9

SESSION VII - Emergency Management of Infectious Disease Outbreaks

"Disaster and Emergency Management in the Health Care Sector"

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Introduction

- **Pandemics** have caused **enormous negative impacts** on health, the economy, national and even international security(WHO, 2005).
- Effective and efficient **emergency management** can reduce the social, economic and human consequences (WHO, 2007). But **emergency management** for pandemics requires different departments to **collaborate and share information** . However, such collaboration in a disease outbreak response have been fraught with difficulties (World Security Institute, 2007).
- International experience shows that in public and environmental health, **risk communication** is an **important means** to assist in cooperation, sharing resources, effective policy making and efficient strategies to deal with a crisis (WHO, 2004).
- **China's experiences** of emergency management for epidemics have varied. For example, control efforts for **SARS** were heavily **criticized** and generally considered to be suboptimal, but the **H7N9** response has earned the **praise** of the international community.
- This study will use a **case study approach** to analyze the **strengths and weaknesses** of risk communication in the SARS and H7N9 prevention and control response in China in order to inform future risk communication **strategies** development in China.

Overview

- Introduction
- Background
  - Disease outbreaks and pandemics
  - Emergency management
  - Risk communication
  - Public health emergency management in China
- Methods
- Preliminary findings
  - SARS
  - H7N9
- Discussion and Conclusions

Notable pandemics and epidemics in history

50 million people died

Spanish Flu 1918 – 1919

Asain Flu 1957 – 1958

4 million people died

1 million people died

Hongkong Flu 1968

SARS 2003

34 countries 8422 cases 919 deaths

74 countries 89 million cases 18300 deaths

H1N1 2009

H7N9 2013-2014

135 cases 45 deaths in China in 2003

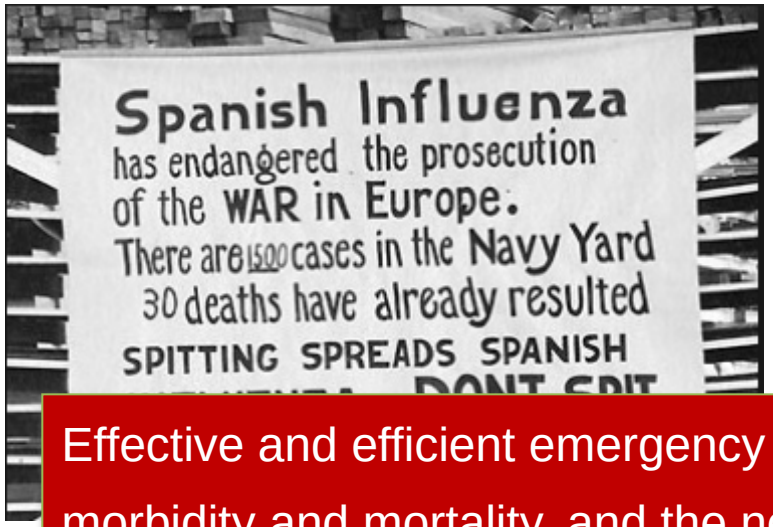
3069 cases 1552 deaths 28 Aug 2014

Ebola 2014

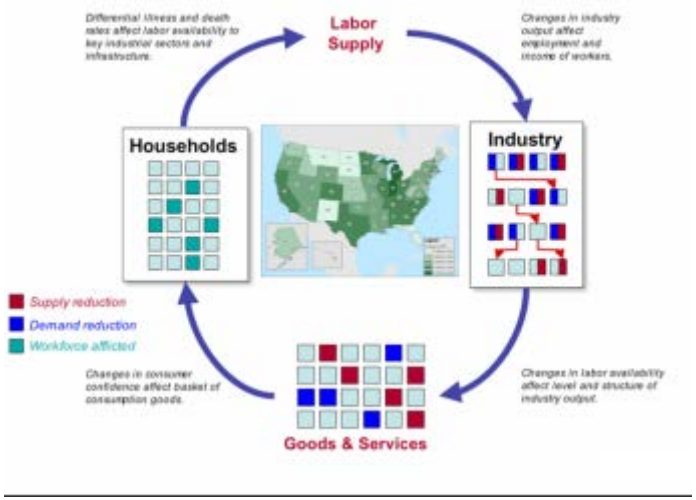
MERS 2015

ZIKA 2016

Impacts of Pandemic



Effective and efficient emergency management can reduce avoidable morbidity and mortality, and the negative impacts on social economy and national security in pandemic crises.



- ***A mild pandemic would cost the global economy $330 billion in lost economic output***
  (Enemark 2009).

Collaboration is critical for Public Health Emergency Management

- Pandemic preparedness
- Developing an appropriate response to control emerging infectious disease outbreaks

Collaboration, coordination and communication

is often poor in emergency management

(WHO 2011), (Ipe, Raghu et al. 2010) ,(Heymann, Mackenzie et al. 2013).

Lack of studies on how to improve collaboration and communication among stakeholders to improve emergency management of pandemics

Risk communication is a tool that has been used to improve communication and collaboration among stakeholders in public and environmental health.

- Risk is the “potential for harm”, it is about the **probability** of danger.
  - There is always **uncertainty** involved.

- Risk communication is the communication of information about risk among groups.

Aim of risk communication

- Risk communications aim: to help **stakeholders** to **reach a common understanding** about risks, identify hazards, assess vulnerabilities and promote community resilience, thereby promoting the capacity to **cope with** an unfolding **public health emergency.** (WHO, 2011)

- Communications are as critical to outbreak control **as laboratory analyses** or **epidemiology.** (Dr Jong-wook Lee, Director-General of WHO, 2004)

Risk Communication for Public Health Emergency Management

Guidance	Organisation	Year
Crisis and Emergency Risk Communication	**US CDC**	**2014**
Communication for Behavioural Impact Toolkit(COMBI) ----Field workbook for COMBI planning steps in outbreak response-2012	WHO/UNICEF/FAO	2012
Commu behavio		2012
Crisis a		**2012**
Outbrea		2011
Creatin		2009
Outbrea		2008
Commu		2008
Crisis a		**2007**
Strategi		2006
WHO O		2005
WHO gl recomm		2005
The Crisis and emergency risk communications toolkit	California Department of Health Services	2005
Outbreak communication: best practices for communicating with the public during an outbreak	WHO	2004
Risk comm		
Crisis and		
Communi public officials	**Human Services**	

- Most guidance focuses on risk communication in crisis or emergency situations.
- Guidelines including definitions, principles, tips and exercises, message development and delivery and media relations.

Key Principles of Risk Communication

- Develop trust
- Be transparent
- Make announcing early
- Listening well
- Planning well
- Be honest, frank, and open
- Be empathetic and caring
- Accept and involve the public as a partner
- Coordinate and collaborate

Lack of applied research about risk communication in the case of pandemics, particularly examples of how theory is applied.

Risk Communication Practices in Public Health in China

- **A short history** in China
- Three stages:

  - **Zero risk communication stage** (before 1978)
    - Strict policy
  - **Initial stage** (1978-2003)
    - one-way: from government to the public
  - **Developing stage** (after 2003)
    - to cooperate with news agencies
    - report more timely and completely.

Effective collaboration is still weak

There is still problem relating to risk communication

SARS in China

- In 2003, **the first cases of SARS** were retrospectively identified in Guangdong province of southern China in **November 2002**.
- Then the infection spread rapidly within Guangdong and to other provinces and municipalities of China, including Beijing, which led to the largest local SARS **epidemic of the world.**
- It is reported that **5327 cases with 349 deaths** occurred in mainland China during the 2003 worldwide SARS epidemic.

China's poor level of communication during the response to the emergency probably led to many avoidable cases of SARS and damaged China's economy and reputation in 2003.

H7N9 in China

- On **March 31, 2013**, China announced that three cases were confirmed to be infected with a novel reassortant **H7N9 virus**, two in Shanghai municipality and one in Anhui province.
- In 2013, **139 confirmed cases** of H7N9 including **45 fatal cases** had been reported in mainland China in 10 provinces and two municipalities.

- Social stability
  - No numors or social chaos
  - No food was sold out
  - No flights were cancelled
  - No schools were closed
- Gov't response was praised

WHO praises China's transparency on H7N9 outbreak

"We are very satisfied and pleased with the level of information shared and we believe we have been kept fully updated on the situation", said Michael O'Leary, WHO's representative in China.

SARS and H7N9 in China

Item	SARS (2003)	H7N9 (2013)
Commonality	▪ **Neither virus had been previously reported** ▪ **Worldwide** ▪ **Global pandemic threat** ▪ **Lead to severe disease**.	
Difference	▪ SARS coronavirus virus ▪ from an as-yet-uncertain animal reservoir	▪ H7N9 virus ▪ the animal reservoir seems to be poultry
Case/Death, Mortality	5327/349, **6.6%**	135/45, **33.6%**
Social impact	▪ **Social Panic** ▪ **Gov't response was criticized**	▪ **Social stability** ▪ **Gov't response was praised**

From SARS to H7N9

- Overall capacity of the national disease prevention and control system has been greatly improved

Aim of research:

To analyze **the strengths** and **weaknesses** of the risk communication approach and processes used in the SARS and H7N9 prevention and control programs in China and inform risk communication **strategy development** to improve emergency management of pandemics in China.

Research question and focus questions

Research question

What are the roles and strategies for risk communication implemented for the prevention and control of SARS and H7N9 in China?

Focus questions

1. What are the features and impacts of disease outbreaks and pandemics?
2. What are the effective public health emergency responses and the need for stakeholder's collaboration in pandemic related events?
3. What are the roles and good practices of risk communication that have been applied to emergency management of pandemics?
4. What are the case profiles of SARS and H7N9, and how and why was risk communication used in the SARS and H7N9 events in China?
5. What lessons can be learnt from the analysis and comparison of the two SARS and H7N9 events to inform risk communication strategy development and improve emergency management of pandemics in China?

Data collection

Setting

- **Beijing, Shanghai, Guangzhou, Hangzhou**
- **Most cases of SARS and H7N9 in 4 cities**

In-depth interviews

- **26 people**

Officers of Health and Family Planning Commission
Officers of Agriculture Department
Experts of CDC
Experts of the designated hospital
Major Media Journalists
Officer of WHO
Officer of FAO

Focus group

- **7 groups, 50 local residents**

Secondary data

- Government annual report and the review report from the national and local departments, CDC, research and published literature.

Preliminary Findings

Key Principles of Risk Communication: Planning well

SARS in 2003

- **No planning and guidebook.** Unclear definition of roles and responsibilities of governments and their departments and agencies at various levels.

H1N1 in 2009:
risk communication was **first mentioned** in official documents in MOH.

H7N9 in 2013

- **laws, regulations and plans were developed.** Risk communication was written into official document in MOH.
- But there was still no planning and no more documents of risk communication for H7N9.

Preliminary Findings

Key Principles of Risk Communication: Coordinate and Collaborate

SARS in 2003

- **Coordination and collaboration** at every level of government, and including the CDC, hospitals and institutes **are poor**. The early stages of the SARS epidemic went largely **unnoticed**. ***Many clinicians were unaware of the epidemic threat posed by the "atypical pneumonia".***

H7N9 in 2013

- **Collaboration, communication** and **sharing** **of data.** Government agencies, local authorities, WHO and international communities acted quickly, and shared critical information such as genetic sequence, virus, surveillance and risk assessment.
- Health officials acted promptly upon laboratory confirmation of human cases, but there were questions about **responsiveness of the agricultural agencies** to identify the animal origins of H7N9.

Preliminary Findings

Key Principles of Risk Communication: Be transparent

SARS in 2003

- **Lack of transparent information flow**. Governments were used to keeping information regarding disasters secret, and this practice resulted in misjudgement of the situation and erroneous decision making.

H7N9 in 2013

- **More transparent**. New cases were reported promptly and publicly. Technical guidelines were quickly updated and disseminated.

Discussion and Conclusion

- Communication strategy **has improved** the effectiveness of disease control in China. A huge progress achieved in integrating risk communication into risk assessment and risk management following SARS control in China.

- However, China is still **in developing** of risk communication development and lacks systematic theories and experience in risk communication practices.

Discussion and Conclusion

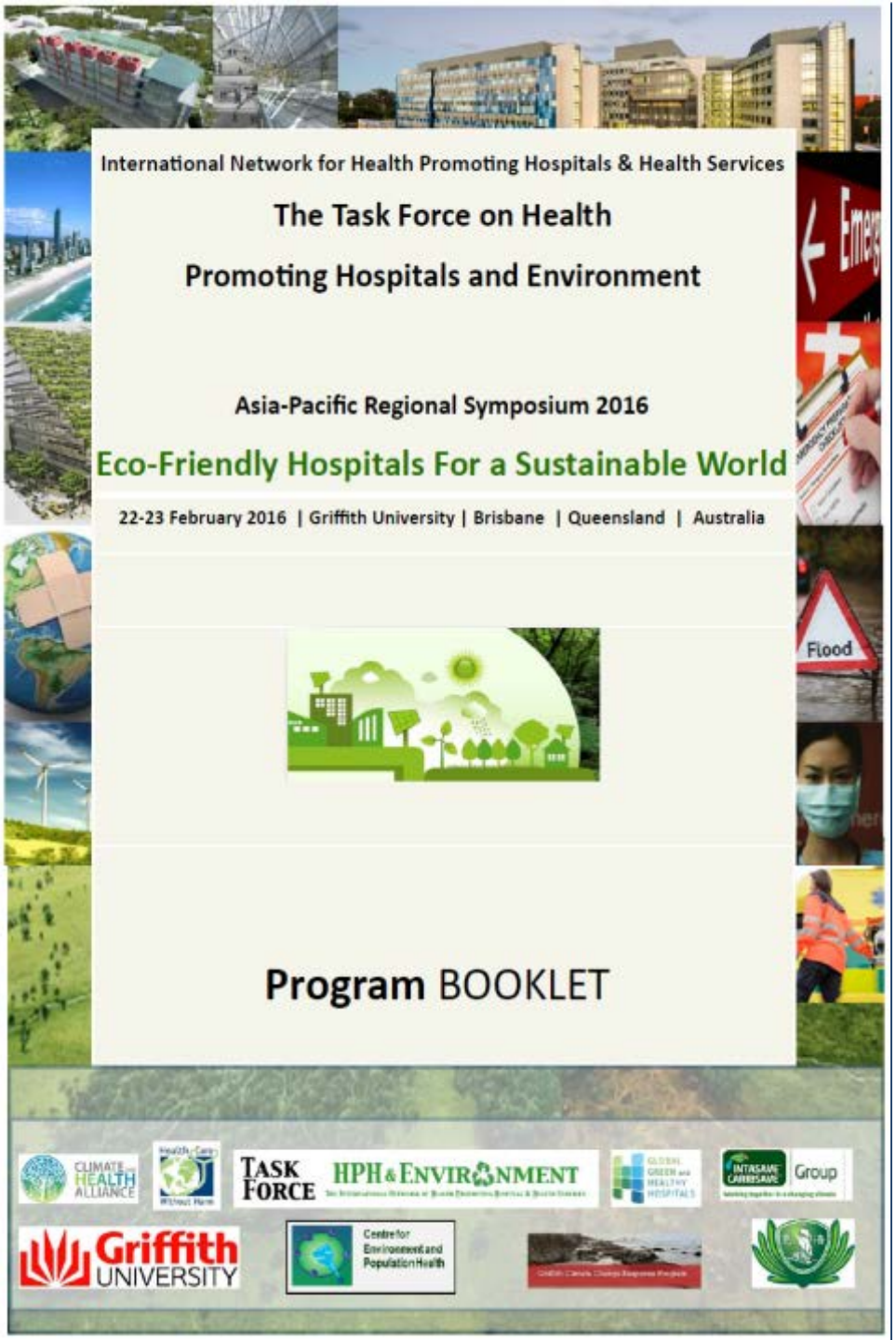
- Critical principles: **trust, transparency, announcing early, and planning**. With these principles, China developing a system of risk communication to cope with H1N1, H7N9, MERS and other disease prevention and control. However, there are challenges for the future:

- **Dialogues** between risk management and the public are not adequate.

- Involving **stakeholders in policy making process** has not yet been realized.

- **Coordination** need to be strengthened between different agencies, as well as between different levels of government.

THANK YOU



AN INTERNATIONAL FORUM ON

"DISASTER and EMERGENCY MANAGEMENT in the HEALTH CARE SECTOR"

TUESDAY, Feb 23rd 2016
Griffith University, Southbank Campus

Hosted by Centre for Environment and Population Health, Griffith University
and co-hosted by Tzu Chi Medical Foundation, Tzu Chi University

Venue: Griffith University South Bank Campus, Griffith Graduate Centre Building (S07) Room 1.23

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