# A Witness of Taiwan's Medical History after the 2<sup>nd</sup> World War

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# **Conflicts of Interest**

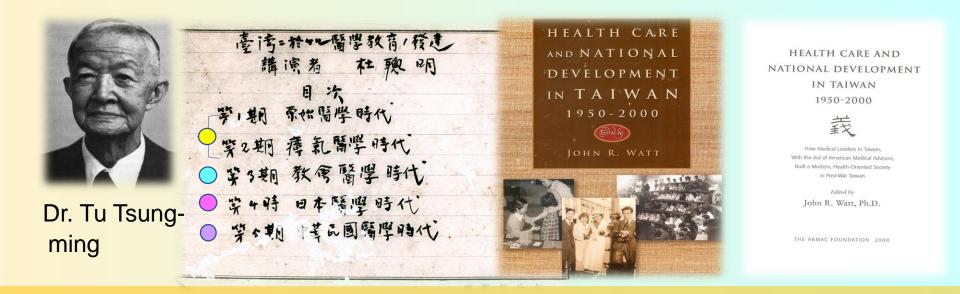
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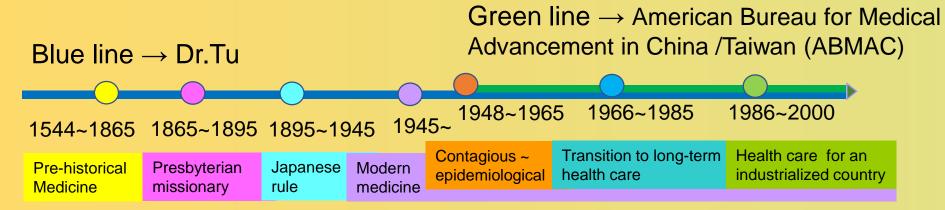


## Contents of my speech



## The stage of medical history defined by Dr.Tu and ABMAC





## Before & 17<sup>th</sup>

## Pre-historical and Austronesian medicine

1544~1865 Pre-historical Medicine

Presbyterian missionary

Japanese rule

Modern medicine

> Defined By Dr.Tu

Before 17th and western medicine was yet into Taiwan, people often suffered from the local diseases of unknown etiologies. The medical need was related to a belief of religion, aboriginal medicine, local way of treatment and herb doctor, and traditional medicine.

During the Dutch occupation period, the medical system and personnel were mainly engaged in commerce and the army (few were missionaries).

However, medical service also offered for aborigines but did not well keep data because of a lack of Chinese translation.



## 1865~ 1895

## History of Presbyterian missionary medicine

Pre-historical Medicine

<mark>1865~1</mark>895

Presbyterian missionary

Japanese rule

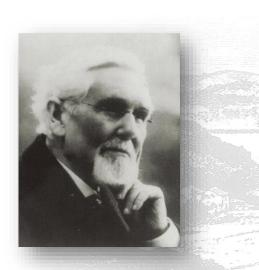
Modern medicine

> Defined By Dr.Tu

After the war with Britain and French in Qing dynasty, Tienchin Treaty was signed which allowed foreigners to travel and inhabit in China and opened the gateway for missionaries to enter the territory of China (include Taiwan).

Thereafter, Britain took over Chinese customs and western medicine was introduced into Taiwan, custom officials and missionaries provided medical service to both European and local residents.





## The first Presbyterian missionary to Formosa

## Dr. James L. Maxwell 1836~1921

- ✓ born in Scotland, arrived in Taiwan at 1865,
- ✓ brought in western medicine and made the major impact of Christianity on Taiwan
- ✓ humane medicine

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## Contribution of Presbyterian Missionary

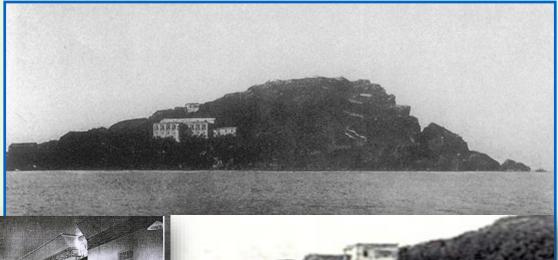
- Medical personnel introduced
- Western-style hospitals and treatments established
- Medical education and training
- Disease analysis
- The development of neurological practice in Taiwan

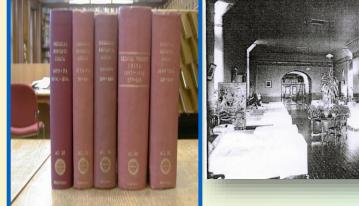
In Taiwan, western medicine was introduced by British customs officials and Presbyterian missionaries in1865, they provided medical service, built western-style hospitals and educated for better health of Taiwanese people.

#### Western-style hospitals and medical school established

1865, Patrick Manson, 1<sup>st</sup> Dr. for Customer service, pioneer of tropical medicine 1879-1886, David Manson Memorial Hospital was the first in Taiwan (Takow) for remembering Dr. David Manson and Patrick Manson toward their contribution.

The hospital was first in charge of Dr. W. W. Myers, and build in western-style and constructed at most 30 native beds, about 4,000 patients in 1884-1885.







#### examination paper

# Medical education and training

This hospital had medical school to teach a proper person in the practice of medicine. They needed to be good in English, study for more than one year the following subjects, viz., anatomy, physiology, elementary chemistry, and systematic surgery. Also, clinical experiences were required before the certificate was granted.

PAPERS ON ANATOMY, PHYSIOLOGY, SURGERY and CHEMISTRY set at Second Quarterly Examination (1st Year), DAVID MANSON MEMORIAL HOSPITAL MEDICAL SCHOOL.

ANATOMY (HEAD AND NECK). (2nd Examination.)

Ten hours allowed for this paper, and all questions may be attempted.

- 1. Describe the third ventricle of the brain.
- 2. Describe the medulla oblongata,--
  - (a.) Structure,
  - (b.) General form,
    - (c.) Relations,
    - (d.) Connexions with cerebrum, pons, cerebellum and spinal cord.
- 3. Describe the course of the vena cava; give its relations and the veins opening directly into it.
- 4. Give the course and relations of the pneumogastric and phrenic nerves on both sides in neck and thorax, with branches and their distribution.
- 5. Describe the digastric triangle,-

(a.) Boundaries,

(b.) Contents;

stating the parts to be removed for its exposure.

- 6. Give the course and relations of the subclavian arteries on both sides.
- 7. Describe the cervical fascia, and state how it would influence matter forming in lower part of neck.

- 8. Describe the sympathetic system in the neck, giving its branches and their distribution.
- 9. Name the nerves of the larynx; describe their origin, course and distribution.
- 10. Describe a lobule of the lung.
- · .31st May 1884.

PHYSIOLOGY. (1st Examination.)

Eight hours allowed for this paper, and all questions may be attempted.

- What are the ultimate constituents of the body; and what proportion does water bear to body weight?
- 2. What are the organic compounds of the body divided into? and give examples of each.
- 3. What quantity of blood is estimated to be in man's body? and describe the *formed* elements of blood, giving the numerical proportion each bears to the other.
- 4. Describe the process of coagulation in blood; what circumstances favour it, and on what does it depend?
- 5. Do serous fluids spontaneously coagulate, and how can they be made to do so?
- 6. What are the two gases in blood ? and give their relative proportion.

Medical education and training

Certificate of local students Chang, A-ban, 張阿本 by SinLau hospital Tainan.

This is to certify that Vin a -puin was at this Rospital from January 1\$ 1920 all beamby aning which time he received practical training in 證書 calicine, Surgery Mudwipry 皆四点子士 Eye Eisewold and Distering tis behaviour while on degutal was excellent and he has been employed here, for some years ance, on Eightnang, and anarchetics. 院 回 Doctors in charge English Presigtenian Mission Regulal Jainan Jaman

#### https://blog.xuite.net/yahoo\_32454/twblog/132639137

# The development of neurological practice in Taiwan

Pre-historical Medicine

#### <mark>1865~1</mark>895

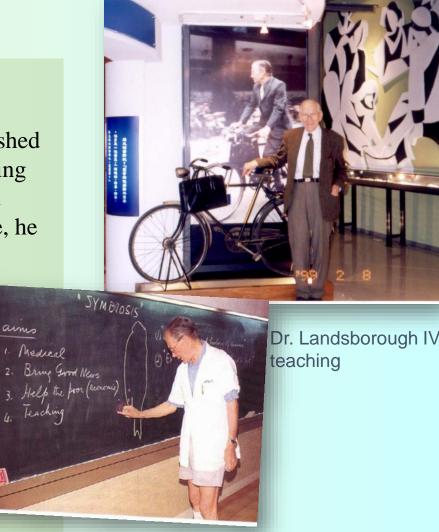
Presbyterian missionary

1895~1945

Japanese rule

Modern medicine These missionary doctors contributed to set up the neurological practice, and published textbooks for neurological training and referencing. Take Dr. David Landsborough III as an example, he helped to found the hospital in

Changhua and his son was born in Taiwan, but welltrained also in the specialty of neurology from the University of London and brought new clinical skills and instruments, as well as led the neurologypsychiatry into neurology and psychiatry two department.



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#### 1895~1945 The period of Japanese rule

## The period of Japanese rule

Pre-historical Medicine

Presbyterian missionary

#### <mark>1895~1945</mark>

Japanese rule

Modern medicine Following the first Sino-Japanese War甲午戰爭 in 1895, the Qing dynasty ceded Taiwan and the Penghu island to Japan for 50 years. (In 1945, the end of World War II, the KMT, took over Taiwan.) During these 50 years of Japanese rule, the Japanese government introduced new medical treatment, methods, education, and devices to improve Taiwan's hygienic environment.

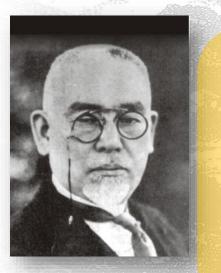
#### Sanitary condition

- ✓ Epidemic diseases (plague, cholera, smallpox, malaria, etc)
- Parasites, poisonous snakes, tuberculosis, leprosy, syphilis, psychiatric diseases.
- Skin diseases, opium addiction, environmental pollution, and drinking water sanitation.

#### 1895~1945 The period of Japanese rule

northeast of China Japan

The founder of modern medicine on colonial Taiwan, ruled Taiwan by [biological principles]



Gotō Shinpei 後藤新平 1857~1929
✓ establish public health surveillance system
✓ improve Taiwan's hygienic environment
✓ population census
✓ public hospital service and medical college
✓ set up regulations for medical professionals

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#### 1895~1945 The period of Japanese rule



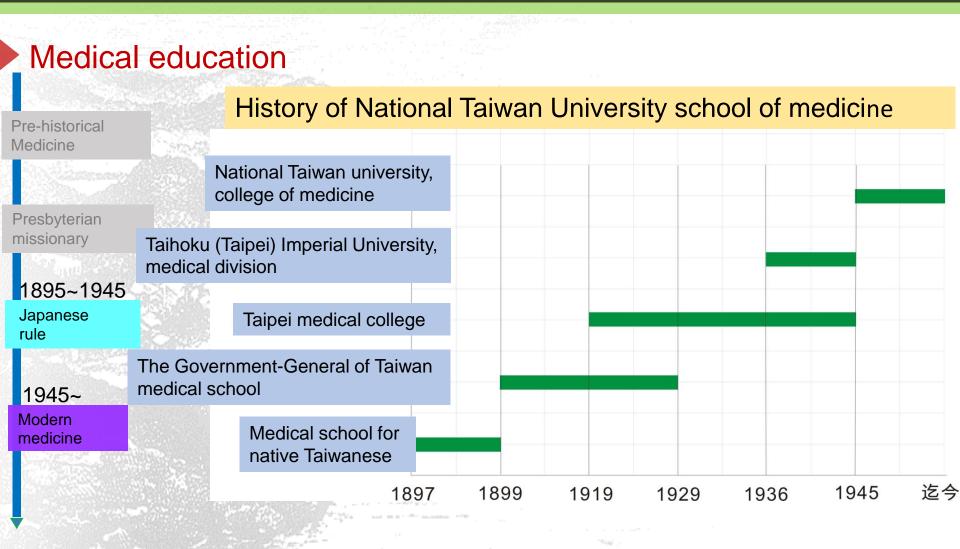
台灣醫學衛生之父 The pioneer of medical sanitary in Taiwan,

## Takagi Tomoe 高木友枝 1858~1943

- ✓ establish Research Institute of Central Government
- ✓ built electricity infrastructure
- ✓ epidemic prevention and control (plague, malaria, cholera, etc)
- $\checkmark$  medical education
- ✓ founder of the Formosan Medical Association

Japan

#### 1895~1945 & after



#### 1895~1945 & after WW II

The first Doctor of Medical Sciences of Taiwan

Dr.Tu Tsung-ming,1893~1986

- ✓ opium addiction treatment
- $\checkmark$  the toxicology of snake venom
- the pharmacology of traditional medicine
- ✓ Aboriginal medical training

Japan

Tamsui

Taipei

http://www.myblog.yahoo.com/neuronneuron TaKow

Japanese rule

Pre-historical

Presbyterian

1895~1945

missionary

Medicine

1945~ Modern

medicine

#### 1895~1945 & after WW II

## Followed Dr Tu's step ~~Set up Aboriginal and Austronesian medical service



Professor Xie Xianchen 謝獻臣, led the first medical service team of Kaohsiung medical university to Hualien花蓮 to engage in parasitic investigation and medical practice. (1956/8)





## Aboriginal and Austronesian medical service cooperation with Kaohsiung county health bureau (served at the Bunun and Tsou tribe )

> http://www.myblog.yahoo.com/neuron neuron



## After 1945~

## After World War II & modern medicine

The origin of modern medicine in Taiwan after WWII was from German-Japan, and Chinese mainland under US influence. They were merged and helped to build-up the medical basis of industrialized countries.

#### 1945~

Modern medicine

1948~1965

Contagious ~ epidemiological

1966~1985

Transition to long-term health care

1986~2000

Health care for an industrialized country

ABMAC

## After 1945 we will cover

- ✓ Public health
- ✓ Taiwan's national health insurance
- ✓ Hospital accreditation
- ✓ SARS
- ✓ Transitional justice
- ✓ Medical ethics & medical service
- ✓ Long-term health care

1945~	194	5~ <sup>1948~196</sup>	5 1966~1985	1986~2000
Modern medicine	Modern medicine	Contagious ~ epidemiological	Transition to long-term health care	Health care for an industrialized country

Taiwan has one of the highest levels of life expectancy in Asia. In 1952 was 57.4 (M) / 60.3(F), in 2017 was 77.3 (M) / 83.7(F). In the last 50 years, government and citizens have been working hard towards a healthier nation. ( $\rightarrow$  medical policies and health promotion)

### Medical policy

- $\checkmark$  Training of the doctors at government expense
- $\checkmark$  The countryside medical care program
- $\checkmark$  The community medical service disciple center plan
- $\checkmark$  The medical service network plan
- ✓ Medical insurance
- ✓ 1995 The national health insurance

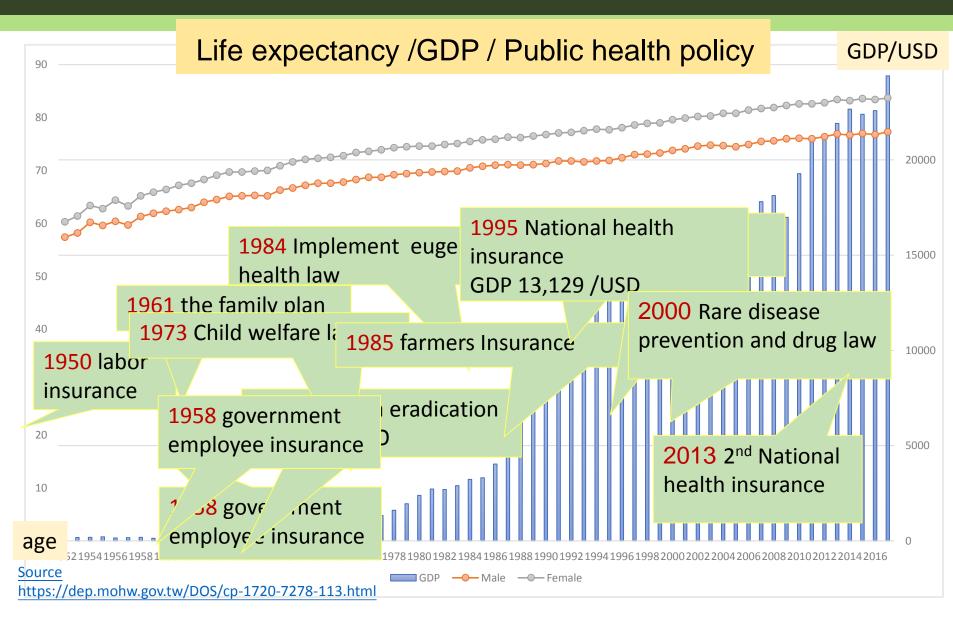
## Health promotion

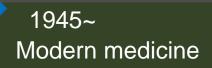
Source

百年台灣公共衛生稛

- ✓ After1950 Disease control (smallpox, cholera, plague and rabies) vaccine→ measles, poliomyelitis, tetanus, diphtheria and whooping cough
- $\checkmark$  The family plan and the women and children's hygiene
- $\checkmark$  The promotion of tobacco hazard prevention
- ✓ Blackfoot disease, poliomyelitis

#### 1945~ Modern medicine





## Life expectancy /GDP / Public health policy

1950~1960	<ul> <li>1950 labor insurance</li> <li>1958 government employee insurance</li> <li>1959 vaccination shot for newborns</li> </ul>	
1981~1990 • • •	1984 Implement hepatitis B vaccination program eugenic health law 1985 farmers Insurance 1990 Low income household insurance	
1991~2000 • • • •	1992 MMR vaccination 1995 National health insurance 1998 Free flu vaccine for over 65 yrs 2000 Rare disease prevention and drug law passed	
2001~ •	2013 2nd National health insurance	
<ul> <li>1973 Established balckfoot disease prevention Center Child welfare law</li> <li>1978 Mandatory immunization of measles vaccine for infants and children</li> </ul>		

Aim

## Development of Taiwan's national health insurance 健保

Modern medicine

1948~1965

Contagious ~ epidemiological

1966~1985

Transition to long-term health care

1986~2000

Health care for an industrialized country

Integrated with labor insurance (1950), government employee insurance (1958), farmers Insurance (1985), and set up a planning commission (1987), and formed the National Health Insurance in 1995. 2013, started the 2<sup>nd</sup> generation National Health Insurance (New NHI).

Health insurance for all people

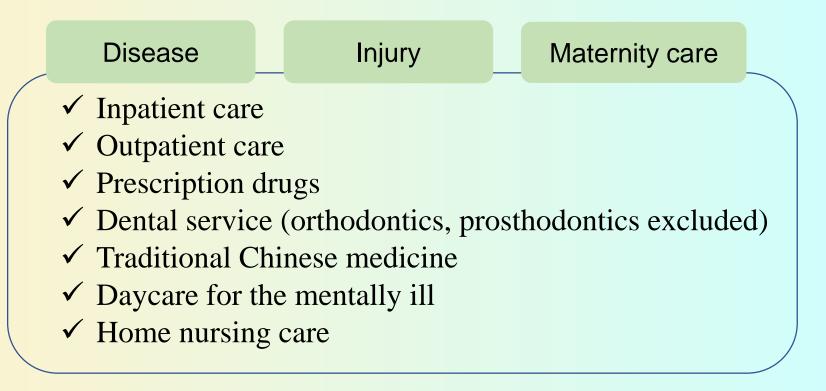
<u>NHI Introduction 全民健保</u> https://www.youtube.com/watch?time\_cont ue=34&v=FIxXcG3b-1k

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#### **Taiwan NHI** Characteristics **NHI** payment system Coverage 1996 Fee for service 1998 Global budget Administrat 2001 Pay for performance Financing 2004 Resource-based relative value scale (RBRVS) 2010 Tw-DRGs (Inpatient) **Benefits** 2012 Capitation (pilot) **Providers** Plural payment programs under the global budget Payment Premium subsidies and copayment waivers for the Privileges disadvantaged

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# Benefits of Taiwan's NHI



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## Taiwan's NHI Smart Card

## Taiwan NHI Health Care Network

Simplif manage

Daily u visit da

Infection tracing

Heaver & mana

efficiencyHigh medical quality

High international

High administration

recognitional

- NATION ALL HEALTH INSUM
- Convenient access
- Mutual assistance
  - Affordable cost

- Universal coverage
- High equality
- High public satisfaction

- Comprehensive benefit coverage
- Care for the disadvantaged
- Secured foundation in disasters

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## Hospital accreditation



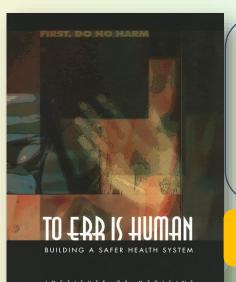
Contagious ~ epidemiological

#### <mark>1966~</mark>1985

Transition to long-term health care

#### 1986~2000

Health care for an industrialized country



Institute of Medicine of the National Academics (IOM) 1999, First report the goal of To err is human : building a safer health system

#### Points

- ✓ To err is human
- ✓ To build a safer health system
- ✓ Patient safety
- ✓ Safety than the quality of healthcare

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## Hospital accreditation

Institute of Medicine of the National Academics (IOM) 2001, Second report the goal of Crossing the quality chasm : A new health system for the 21st

#### Overhauling U.S. Health Care

America's health system is a tangled, highly fragmented web that often wastes resources by duplicating efforts, leaving unaccountable gaps in coverage, and failing to build on the strengths of all health professionals, says **Crossing the Quality Chasm: A** 



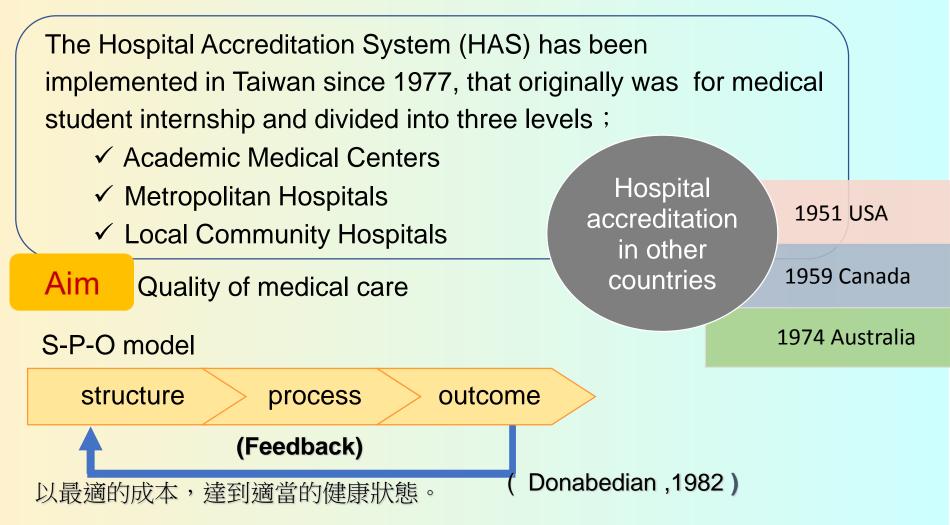
New Health System for the 21st Century, a new report by a committee of the Institute of Medicine. The report calls for immediate action to improve care -- in all aspects and for everyone -- over the next decade, and offers a comprehensive strategy to do so.

### Points

- ✓ Crossing the quality chasm
- ✓ A new health system for the 21st
- ✓ More important and broad conclusion
- Patient-centered care

、提供學習自我處理的醫療環境

Hospital accreditation in Taiwan 評鑑



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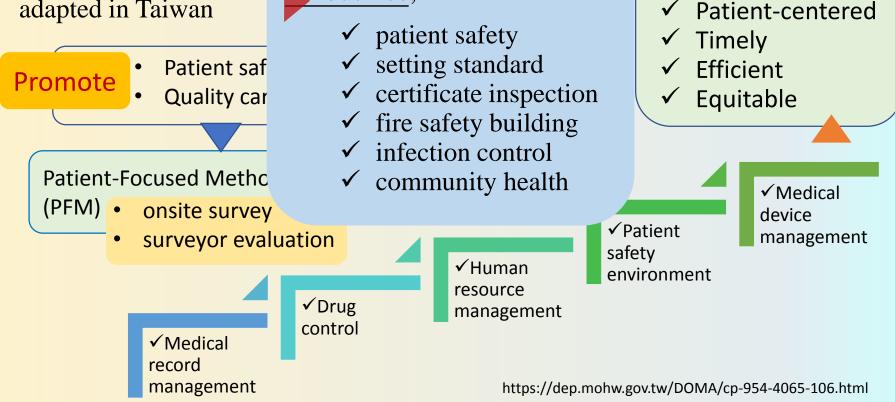
Safety

Effectiveness

6 aims

# Reform and implementation of the hospital accreditation in Taiwan 評鑑 For IOM

Base on IOM's criterior system, hospital accred adapted in Taiwan ✓ patient safety



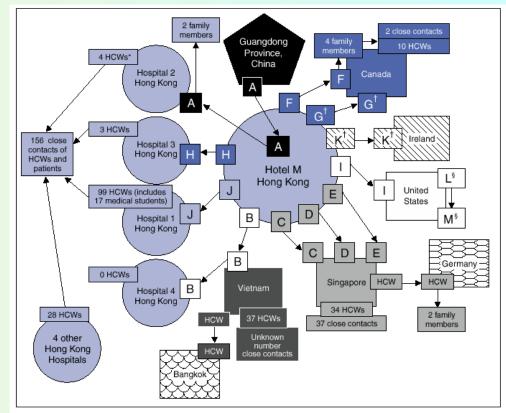
#### **Transformative justice**

SARS 2002/12-2003/07/31 8,096\_worldwide cases

#### Most cases appeared,

China	5,327
Hong Kong	1,755
Taiwan	346
Canada	251
Singapore	238

## chain of transmission among guests at Hotel M-Hong Kong, 2003



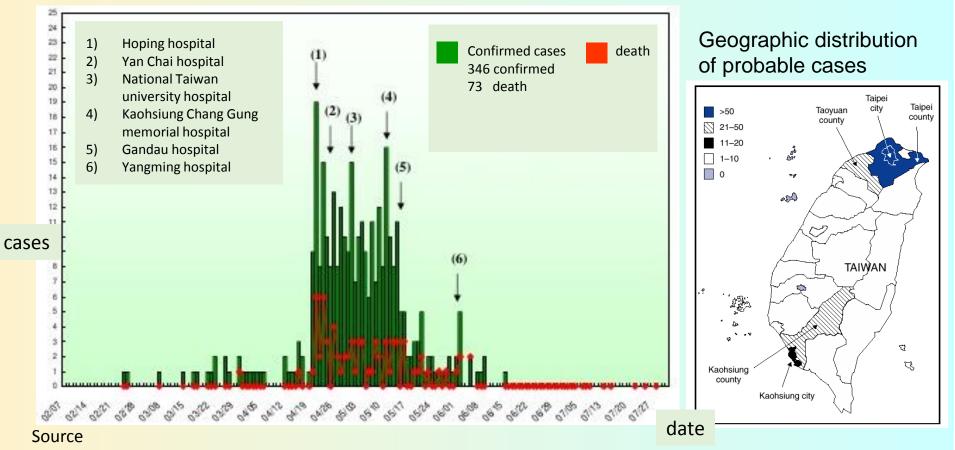
#### Health-care workers.

<sup>1</sup> All guests except G and K stayed on the 9th floor of the hotel. Guest G stayed on the 14th floor, and Guest K stayed on the 11th floor. <sup>9</sup> Guests L and M (spouses) were not at Hotel M during the same time as index Guest A but were at the hotel during the same times as Guests G, H, and I, who were ill during this period.

#### **Transformative justice**

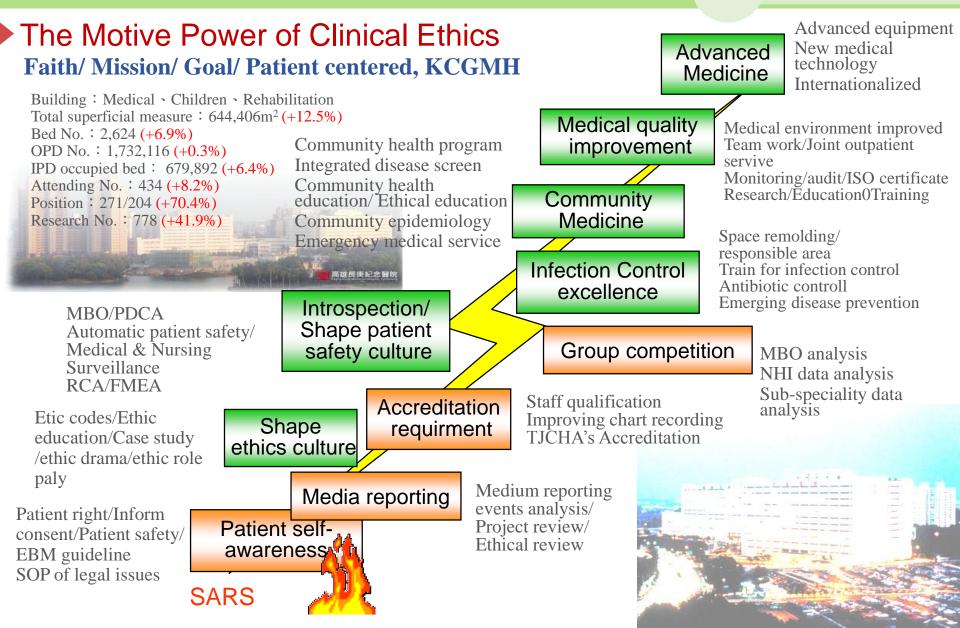
## **SARS** in Taiwan

#### 2003/02/07~07/27 confirmed case epidemiology curve in Taiwan



#### https://www.cdc.gov.tw/File/Get/InG8jagjxffXBDW1UexnrA

#### Transformative justice

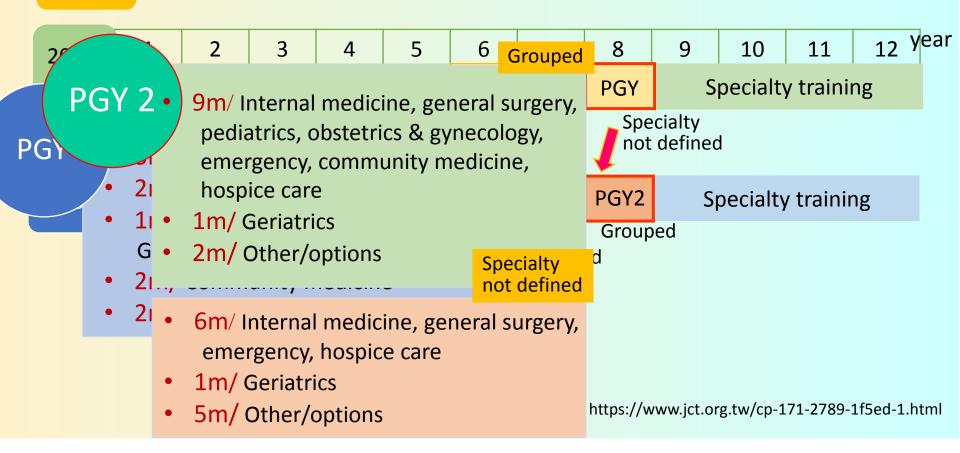


## Medical education and PGY

After SARS, physician training adopted Post Graduate Year Program (PGY),

Aim

for comprehensive physician training.



#### **Transformative justice**

## Taiwanese transitional justice referendum







457 Million Taiwanese Gathered to Protest for Human Rights **1969** Maternal and Child health management plan

**1987** Criminal code article 100

2008 Act to admission to WHO & UN

2013 Soldier's death sparks massive protest2015 Former President Chen medical parole

**2016** Taiwan committed to gender equality

2019 Legal same-sex marriage

#### International Support & Give back : ARCTIC OCEAN **Taiwanese Neurologists in the World** ANADA Steckholm eOslo) Moscow Ber hn Montreal KAZAKHSTA Vancouver DNITED TOTONTO: Istanbu New York come Beijing Chicag San Francisco Madrid PAN Algiers Athens Baghdad Washington D.C. CHINA Los Angeles Shanghan okyo Carro Miami ALG. (LIB ATLANTIC Delhi PACIFIC Calcutta V.S. OCEAN Mexico Citu OCEAN Bombay Manila Caracas Daka HILIPPINES PACIFIC Singapore Santa Fe de Bogota **300**S INDIAN OCEAN Jakarta La Paz Brasilia ATLANTIC ANGOLAS INDONESIA Lima OCEAN Rio de Janeiro NAMIBIA AUSTRALIA São Paulo OCEAN Johannesburg Valparaiso Sudnet Aucklan Cape Town SOUTH **Buenos Aires** CHILE Melbourne AFRICA ARGENTINA NEW ZEALAND Punta Arenas

Oversea trained neurologists in Taiwan N=168, P=146/358(40.8%)

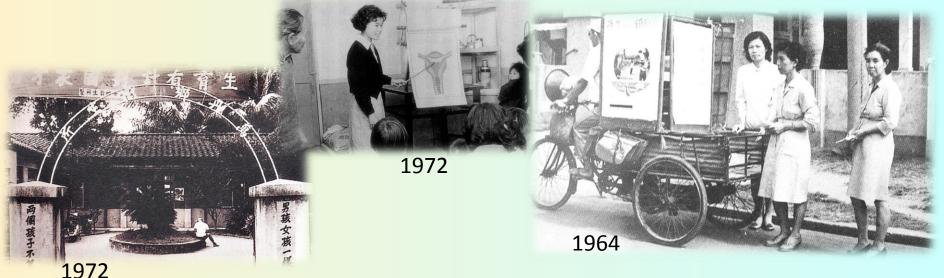
ANTARCTICA

#### **Transformative justice**

## Medical ethics & medical service

From policy and education to implement the maternal and child health plan





#### **Transformative justice**

## Medical ethics & medical service

The early medical service for remote areas started with

1958	public aboriginal physician	
1969	nursing training	

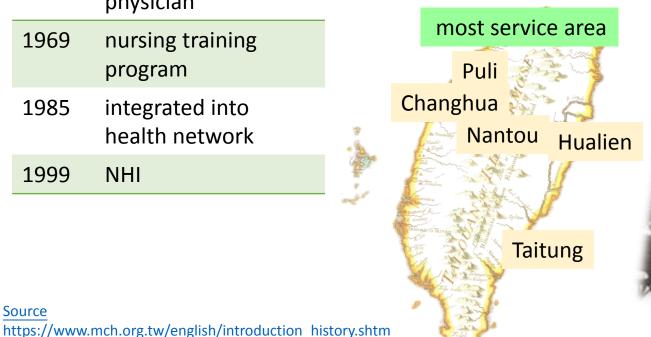
program

1985 integrated into health network

1999 NHI

Source

However, the medical works of missionaries did make a big impact. e.g.→Mennonite Overseas Relief Commission of the Mennonite Central Committee (MCC) 門諾 began the first mobile clinics.





Dr. Brown



#### **Transformative justice**

## Medical ethics & medical service



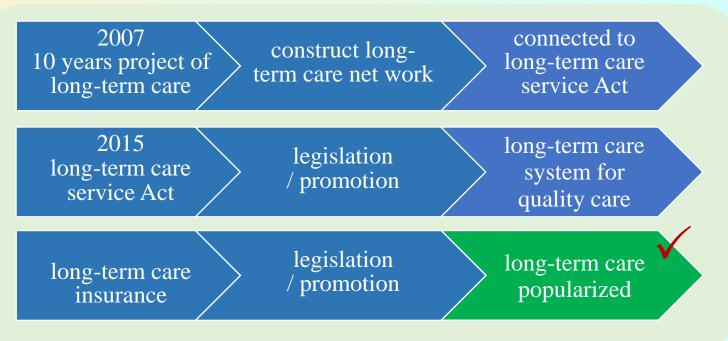
Transformative justice

## Long-term health care 長照

According to WHO, defined relationship between health and function Disease —Impairment —Disability —Handicap

### Taiwan's long-term care policy and system

originally from poverty relief, housing and resettlement



## **Development of long-term care**

Brief introduction of long-term care development models in the main countries

Founding	Countries	Who pays?	Government responsibility
	Germany	employers & individuals pay 50% each.	government has less responsibility
Insurance Japa	Japan	insurance & government tax pay 50% & employers and individuals pay 50%	government has more responsibility than Germany
Tax	UK	Tax (public health system)	government has MOST responsibility
Compound	USA	public Medicare and Medicaid salary tax and insurance pay 50% & individuals pay 50%	government has more responsibility than Germany & Japan, less than UK
Compound	Taiwan	government tax, insurance tobacco health welfare tax estate and gift tax & individuals	government has more responsibility

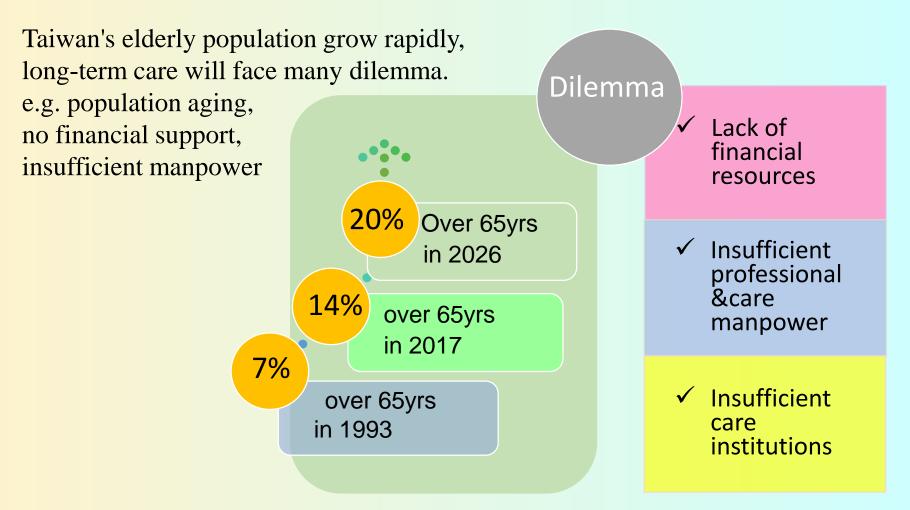
#### Transformative justice



https://socbu.kcg.gov.tw/index.php?prog=1&b\_id=17

Transformative justice

## **Development of long-term care** 長照困境



## Conclusion

We explore the unfolding of Taiwan Medical History and the significant evolution of healthcare services since the 2nd World War. We have look over the captivating pre-war tropical background of Taiwan, the involvement of Austronesian medicine and fundamental of hygiene improvement and medical educational system during the period of Japan control.

In Taiwan, through the thinking of transformative justice has improved the quality of medicine, and establish the healthcare, in which cover fields of public health, medical education, hospital accreditation, medical ethics & medical service and long-term health care.