

NCI Center for Global Health Update on U.S. – China Partnership in Cancer Research

**Board of Scientific Advisors &
National Cancer Advisory Board**

**Ted Trimble, MD, MPH
NCI Center for Global Health
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Mao Zedong & Richard Nixon, 1971



Deng Xiaoping & Jimmy Carter, 1979



Brief History

- **1979** **US-China Agreement on Cooperation in Science and Technology**
 - **1980** **Atlas of Cancer Mortality in the People's Republic of China**
 - 1981- Launch of epidemiologic studies of lung, esophagus, stomach, liver cancers, and studies of environmental and occupational exposures
 - 1985 Linxian Nutrition Intervention Trial (NIT) launched
 - 1986 Shanghai Health Study Cohort launched
 - 1993 NIT results published
 - 1997 Study of hematologic cancers in benzene exposed worker published
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- **2008** **NCI Office of China Cancer Programs, Beijing, Dr. Julie Schneider**
 - 2010 MOU NCI–Beijing Tiantan Hosp (Chinese Cancer Genome Consortium)
 - 2010 MOU NIH–National Science Foundation of China (NSFC)
 - 2011 MOU HHS–Ministry of Science and Technology (MOST)
 - **2011** **NCI Center for Global Health, Beijing, East Asia, Dr. Ann Chao**
 - 2012 MOU NCI–Chinese National Cancer Center
 - **2015** Ongoing research and training cooperation

Cancer Incidence, China, 2011

Rank	Male			Female		
	Site	Cases	ASR*	Site	Cases	ASR*
1	Lung	441,364	48.44	Breast	248,620	28.51
2	Stomach	296,419	32.62	Lung	209,689	21.93
3	Liver	264,635	29.30	Colorectum	131,840	14.02
4	Esophagus	205,560	22.47	Stomach	124,070	13.21
5	Colorectum	178,404	19.70	Liver	90,960	9.64
6	Bladder	53,074	5.82	Cervix	87,982	10.40
7	Prostate	49,007	5.33	Esophagus	85,678	8.85
8	Pancreas	45,385	4.99	Thyroid	67,788	8.70
9	Brain, CNS	43,289	5.22	Uterus	57,709	6.46
10	Lymphoma	41,298	4.80	Ovary	45,233	5.35

Data Source: 2013 Chinese Cancer Registry Annual Report

* ASR – age standardized rate, Segi standard population

Cancer Mortality, China, 2011

Rank	Male			Female		
	Site	Cases	ASR*	Site	Cases	ASR*
1	Lung	364,432	39.94	Lung	164,721	16.68
2	Liver	239,218	26.38	Stomach	90,792	9.21
3	Stomach	206,704	22.69	Liver	83,199	8.61
4	Esophagus	154,587	16.86	Esophagus	64,371	6.38
5	Colorectum	86,427	9.40	Colorectum	63,295	6.26
6	Pancreas	40,580	4.43	Breast	60,473	6.57
7	Brain,CNS	28,542	3.35	Pancreas	32,143	3.21
8	Leukaemia	27,907	3.46	Cervix	23,375	2.59
9	Lymphoma	25,066	2.84	Brain,CNS	22,234	2.54
10	Bladder	20,949	2.23	Leukaemia	19,708	2.45

Data Source: 2013 Chinese Cancer Registry Annual Report

* ASR – age standardized rate, Segi standard population

Research – Addressing Major Cancer Burdens

Lung Cancer

- Occupational Cohort of Tin miners in Yunnan Province
- Genetic susceptibility and environmental exposures in women who never smoked tobacco

Upper Gastrointestinal Cancers

- Studies of etiology, early detection, and treatment
- Nutritional Intervention Trial

Liver Cancer

- Epidemiology
- Genetic basis of hepatocellular carcinoma, diagnostic markers, potential treatment targets

Research – Addressing Major Cancer Burdens

Colorectal Cancer

- Microbiome and adenoma, colorectal cancer screening

Breast Cancer

- Breast density and tumor molecular subtypes

Nasopharyngeal Cancer in Southern China

- Familial, viral, dietary, and environmental risk factors

Hematologic Cancers

- Lymphoma subtypes in relation to occupational and environmental exposures
- Benzene-exposed workers; study results were instrumental in modifying US EPA rulings

Research Co-Funding

NIH – National Science Foundation of China (NSFC) US-China Program for Biomedical Research Cooperation

Objective

- Build US-China scientific cooperation and teams to address a common question
- Assess the benefits and challenges of co-managing a collaborative program

Year 1 (FY2011)

- Extramural 1-year administrative supplements, intramural 1-year new awards
- NIH ~\$3 million (NCI, NIAID, OAR), NSFC ~9 million RMB

Year 2 (FY2012)

- Extramural 1-year administrative supplements, intramural 1-year new awards
- NIH ~\$4 million (NCI, NIAID, OAR, NIMH), NSFC ~12 million RMB

Year 3 (FY2013)

- Extramural 3-year R01 awards
- NIH ~\$5 million (NCI, NIAID, OAR, NIMH, NINDS), NSFC ~15 million RMB

Evaluation

Research Co-Funding

NIH – Chinese Ministry of Science and Technology (MOST)

Objective

- Build new US-China cooperation in biomedical research funding, including clinical research
- Exchanges information on research funding governance, infrastructure, and management

Status

- MOST engagement with NIAID
- 2014 MOST leadership visit to NIH in 2014 with leaders of 4 National Clinical Research Centers , issued call for proposals from National Clinical Research Centers working with NIH

Training and Capacity Building

In the US

- Chinese post-doctoral fellows at NCI, NCI-designated Cancer Centers, and universities
- Chinese researchers and visiting fellows at NCI, NCI Cancer Centers, and universities
- Participation in NCI's Summer Principles and Practices of Cancer Prevention and Control Course

In China

- Training through working on joint research
- Joint workshops (select examples)
 - Media workshop for journalists
 - Using cancer registry data to inform research and cancer prevention and control policy
- Training of US Fogarty and Fulbright fellows

Role of NCI Center for Global Health

Advocate for research and implementation of research results

- HPV vaccine approval and implementation in China, tobacco control, etc.
- Building and sustaining national clinical research networks
- Partnerships in China and internationally (WHO, IARC, etc.)

Convene

- Partners within and across disciplines, institutions, countries, regions

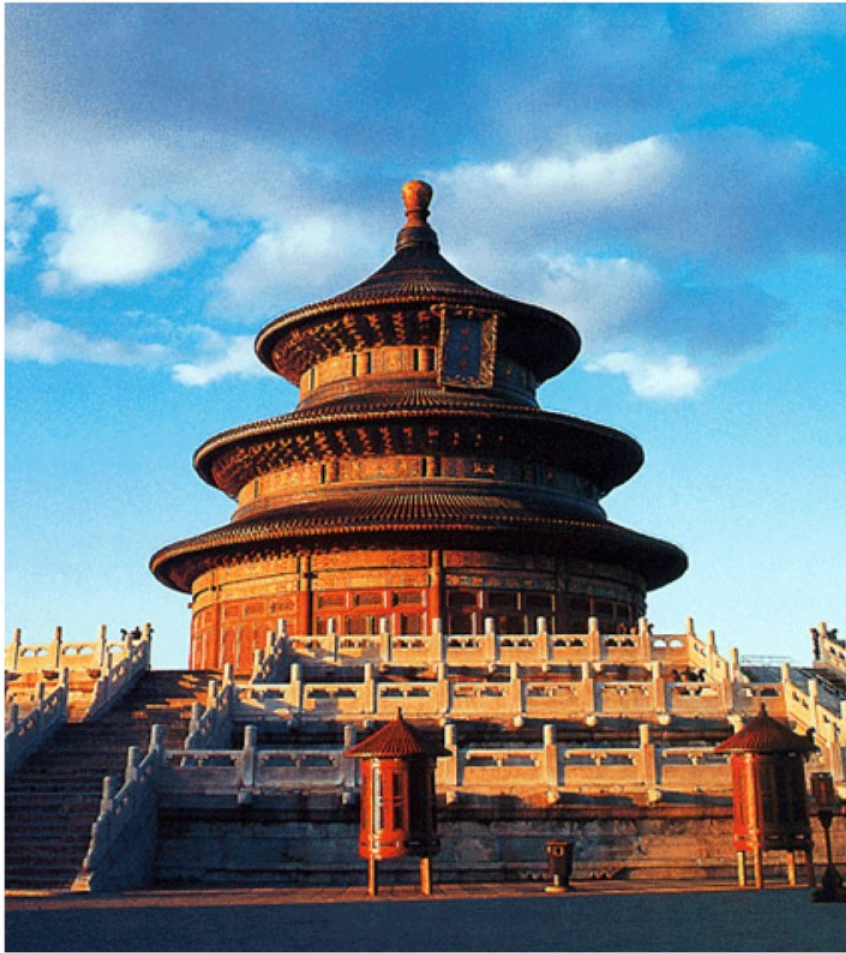
Facilitate

- Ongoing research collaborations and help address needs of intramural and extramural scientists in the US, China, and elsewhere
- Opportunities for scientific exchange
- New initiatives in cancer research, prevention and control

Explore

- Outstanding scientists and opportunities for research, funding, advocacy
- Training and capacity building
- Cooperation in China's global health work

China-US partnership in cancer research





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