

RESEARCH TWITTER

Feng, Zijian, Wenkai Li, and Jay K. Varma. "Gaps Remain in China's Ability to Detect Emerging Infectious Diseases Despite Advances Since the Onset of SARS and Avian Flu." *Health Affairs* 2011, 30(1): 127-35.

Early detection of emerging infections in China is critical to the health of the 1.3 billion Chinese people and to the world. China's surveillance system for endemic infectious diseases has improved greatly since 2003, but the country's ability to conduct surveillance for laboratory-confirmed infections remains underdeveloped. This is dangerous for China, the world's most populous country, which has been the focus of global attention since outbreaks of severe acute respiratory syndrome (SARS) and avian influenza. The paper describes China's public health advances since the 2003 SARS outbreak and concludes that China must now invest far more in pathogen-based disease surveillance. An enhanced disease-detection system in China will help prevent and contain outbreaks before they cause substantial illness and death in China and other countries.

Lu, Jui-Fen Rachel, and Tung-Liang Chiang. "Evolution of Taiwan's Health Care System." *Health Economics, Policy and Law* 2011, 6(1): 85-107.

This study presents an overview of the evolutionary policy process in reforming the health care system in Taiwan, through dissecting the forces of knowledge, social-cultural context, economic resources and political system. It further identifies factors that had a significant impact on health care reform policies in Taiwan through illustrative policy examples. One of the most illuminating examples highlighted is the design and implementation of a single-payer National Health Insurance (NHI) program in 1995. The NHI is one of the most popular social programs ever undertaken in the history of Taiwan. Despite high satisfaction ratings, Taiwan's health care system today is encountering mounting pressure for new reforms as a result of its rapidly aging population, economic stagnation, and imbalanced NHI checkbook. Nevertheless, Taiwan's experiences in reforming its health care system for the past few decades may provide valuable lessons for countries going through rapid economic and political transition.

Leon-Gonzalez, Roberto, and Fu Min Tseng. "Socio-Economic Determinants of Mortality in Taiwan: Combining Individual and Aggregate Data." *Health Policy* 2011, 99(1): 23-36.

There is a very large literature that examines the relationship between health and income. Two main hypotheses have been investigated: the income inequality hypothesis and the absolute income hypothesis. Most of previous studies have been criticized for estimating an aggregate model that does not account for non-linear links between health and income at the individual level. This paper follows a novel approach to avoid this bias, combining aggregate mortality data with individual-level data on socio-economic characteristics. It tests the income inequality and absolute income hypotheses using county-level mortality data from Life Statistic of Department of Health and individual-level data from Taiwan census Family Income and Expenditure Survey for 1976–2004. It finds evidence to support the absolute income hypothesis but not income inequality hypothesis. It also finds strong evidence that education does have significant effects on individuals' health.

Liang, Xiao-Feng, Li Li, Da-Wei Liu, Ke-Li Li, Wen-Di Wu, Bao-Ping Zhu, Hua-Qing Wang, Hui-Ming Luo, Ling-Sheng Cao, Jing-Shan Zheng, Da-Peng Yin, Lei Cao, Bing-Bing Wu, Hong-Hong Bao, Di-Sha Xu, Wei-Zhong Yang, and Yu Wang. "Safety of Influenza A (H1N1) Vaccine in Postmarketing Surveillance in China." *New England Journal of Medicine* 2011, 364(7): 638-47.

The authors aimed to assess the safety of the 2009 pandemic influenza A (H1N1) vaccination program that China began administering on September 21, 2009. They designed a plan for passive surveillance for adverse events after immunization with the influenza A (H1N1) vaccine. Physicians or vaccination providers were required to report the numbers of vaccinees and all adverse events to their local Center for Disease Control and Prevention (CDC), which then reported the data to the Chinese CDC. Data were collected through March 21, 2010, and were verified and analyzed

by the Chinese CDC. A total of 89.6 million doses of vaccine were administered from September 21, 2009 through March 21, 2010 and 8067 vaccinees reported having an adverse event, for a rate of 90.0 per 1 million doses. The age-specific rates of adverse events ranged from 31.4 per 1 million doses among persons ≥ 60 years to 130.6 per 1 million doses among persons ≤ 9 years, and the manufacturer-specific rates ranged from 4.6 to 185.4 per 1 million doses. A total of 6552 of the 8067 adverse events were verified as vaccine reactions; 1083 of the 8067 were rare and more serious, most of which (1050) were allergic reactions. Eleven cases of the Guillain-Barré syndrome were reported, for a rate of 0.1 per 1 million doses, which is lower than the background rate in China. To conclude, no pattern of adverse events that would be of concern was observed after the administration of influenza A (H1N1) vaccine, nor was there evidence of an increased risk of the Guillain-Barré syndrome.

Zheng, Wei, Dale F. McLerran, Betsy Rolland, Xianglan Zhang, Manami Inoue, Keitaro Matsuo, Jiang He, Prakash Chandra Gupta, Kunnambath Ramadas, Shoichiro Tsugane, Fujiko Irie, Akiko Tamakoshi, Yu-Tang Gao, Renwei Wang, Xiao-Ou Shu, Ichiro Tsuji, Shinichi Kuriyama, Hideo Tanaka, Hiroshi Satoh, Chien-Jen Chen, Jian-Min Yuan, Keun-Young Yoo, Habibul Ahsan, Wen-Harn Pan, Dongfeng Gu, Mangesh Suryakant Pednekar, Catherine Sauvaget, Shizuka Sasazuki, Toshimi Sairenchi, Gong Yang, Yong-Bing Xiang, Masato Nagai, Takeshi Suzuki, Yoshikazu Nishino, San-Lin You, Woon-Puay Koh, Sue K. Park, Yu Chen, Chen-Yang Shen, Mark Thornquist, Ziding Feng, Daehee Kang, Paolo Boffetta, and John D. Potter. **"Association between Body-Mass Index and Risk of Death in More Than 1 Million Asians."** *New England Journal of Medicine* 2011, 364(8): 719-29.

The authors performed pooled analyses to evaluate the association between Body Mass Index (BMI) and the risk of death among more than 1.1 million persons recruited in 19 cohorts in Asia. The analyses included approximately 120,700 deaths that occurred during a mean follow-up period of 9.2 years. In the cohorts of East Asians, including Chinese, Japanese, and Koreans, the lowest risk of death was seen among persons with a BMI in the range of 22.6 to 27.5. The risk was elevated among persons with BMI levels either higher or lower than that range. A similar U-shaped association was seen between BMI and the risks of death from cancer, from cardiovascular diseases, and other causes. In the cohorts comprising Indians and Bangladeshis, the risks of death from any cause and from causes other than cancer or cardiovascular disease were increased among persons with a BMI of 20.0 or less, as compared with those with a BMI of 22.6 to 25.0, whereas there was no excess risk of either death from any cause or cause-specific death associated with a high BMI. To conclude, underweight was associated with a substantially increased risk of death in all Asian populations. The excess risk of death associated with a high BMI, however, was seen among East Asians but not among Indians and Bangladeshis.

Tian, Li-li, Wei-xian Shi, Ying-Deng, Xing-huo Pang, Peng-Yang, Fang-Huang, Shu-juan Cui, Xin-Zhang, Dai-tao Zhang, Quan-yi Wang. **"Serologic survey of pandemic influenza A (H1N1 2009) in Beijing, China."** *Preventive Medicine* 2011, 52(1): 71-4.

This article examines the frequency and distribution of antibodies against pandemic influenza A (H1N1 2009) in populations in Beijing. In January 2010, a randomized serologic survey of H1N1 2009 was carried out. Six districts were randomly selected with a total of 4601 participants. The overall seropositive rate for H1N1 2009 antibodies was 31.7% among the 4601 participants. The seropositivity prevalence in participants who received the pandemic H1N1 vaccination was 60.9%. Only 53.1% of the H1N1 2009 seropositive individuals who had not received the vaccination experienced respiratory tract infection symptoms. Multivariate logistic regression revealed that factors such as age, occupation, dwelling type, whether the participant's family included students in school, and the vaccination history with H1N1 2009 were associated with antibody titers. The article concluded that almost 30.0% of the residents had appropriate antibody titers against H1N1 2009 in Beijing and these titers may provide an immune barrier.

He, Qi-qiang, Tze-wai Wong, Lin Du, Zhuo-qin Jiang, Tak-sun Ignatius Yu, Hong Qiu, Yang Gao, Weijia Liu, and Jia-gang Wu. **"Physical Activity, Cardiorespiratory Fitness, and Obesity among Chinese Children."** *Preventive Medicine* 2011, 52(2): 109-13.

This article investigates the relationships of cardiorespiratory fitness (CRF) and physical activity (PA) with the risk of overweight/obesity in Chinese schoolchildren. A total of 1795 children aged 8–13 years at baseline were followed-up for 18 months from 2006 to 2008 in Guangzhou, China. Data on self-reported PA were obtained. CRF was determined by the 20-meter multistage fitness test, and the sex-specific median values were set as the cut-off points for the classification of high and low CRF. Significantly higher CRF was found in children with normal weight or physically active children compared with the reference group. CRF was inversely associated with the kg/m² change in BMI. Significant association of baseline CRF with overweight/obesity was found in boys, whereas the association was marginally insignificant in girls. The results showed a strong negative association between CRF levels and children's BMI and weight gain.

Li, Ling. **"The Challenges of Healthcare Reforms in China."** *Public Health* 2011, 125(1): 6-8.

China is in the process of a new round of healthcare reforms. The Chinese Government has launched ambitious healthcare reforms aiming to achieve equitable access to basic health services; and to build a safe, effective, convenient and inexpensive healthcare system for both urban and rural residents. This paper will provide a brief overview of China's healthcare reforms, and describe the challenges and opportunities facing these reforms.

Ling, R. E., F. Liu, X. Q. Lu, and W. Wang. **"Emerging Issues in Public Health: A Perspective on China's Healthcare System."** *Public Health* 2011, 125(1): 9-14.

China's expenditure on healthcare has increased dramatically over the last 20 years, and three broad trends are seen in the associated health outcomes. First, limited improvements have been achieved to aggregate high-level health outcomes. Second, widening health inequalities are associated with disparate wealth between provinces and a rural–urban divide. Finally, the burden of disease is shifting from predominantly communicable diseases to chronic diseases. Reasons for the limited gains from investment in healthcare are identified as: (1) increased out-of-pocket expenditure; (2) a geographical imbalance in healthcare spending; and (3) the commercialization of healthcare without adequate attention to cost control. Recently, the Chinese government has initiated widespread reform and proposed three key policy responses: (1) establish rural health insurance; (2) develop community health centers; and (3) aspire to universal basic healthcare coverage by 2020.