**Global Burdens of Disease**– In December 2012, The Lancet published the Global Burden of Disease Study 2010, involving nearly 500 scientists from 300 institutions in 50 countries. Led by Professor Chris Murray of the Institute for Health Metrics and Evaluation at the University of Washington, GBD 2010 revealed some surprising health trends. Around the world, populations are aging and the causes of death are shifting to non-communicable diseases. People are living longer, but their lives are also filled with more sickness and disability – depression, anxiety, migraines and musculoskeletal impairments due to back and neck pain.

**China’s GBD**–Based on the global GBD methodology, China CDC, Peking Union Medical College, IHME and Australia Queensland University produced a China GBD 2010 study that offers a comprehensive understanding of China’s changing patterns of disease and health. Over the past 20 years, China has made great strides in health. By 2010, life expectancy reached 72.9 years for men and 79.0 years for women, and mortality rates for children under five declined since 1970 by over 70% (Figure 1). These achievements accompany three major health transitions– demographic, epidemiologic, and disability – of enormous policy significance.

1) **Demographic transition** – China’s population is rapidly aging. Driven by decades of low fertility and rising longevity, more than 30% of China’s population will be over 60 years, many over 80 years, by 2050. China’s population is also urbanizing at an unprecedented pace. According to China’s 12th Five Year Plan, 60% of China’s population will live in cities by 2020. Aging populations increase the prevalence of disability requiring more intensive care, and urban populations pose new health risks and challenges to urban health care systems.

2) **Epidemiologic transition** – China’s burden of disease has shifted to non-communicable diseases (NCDs). Of China’s total annual deaths of 8.3 million, 7.0 million are due to NCDs. Stroke, ischemic heart disease, cancers, and chronic obstructive pulmonary diseases are the top causes of premature death. Injury, especially road accidents, has become the fourth leading cause of death. Leading risk factors show the burden of disease has shifted away from communicable diseases in children towards non-communicable diseases in adults. Figure 3 shows that the leading risk factors are dietary risk (diets high in sodium, low in fruit, high in fat), high blood pressure, tobacco, and air pollution.

3) **Disability transition** – The burden of disability among Chinese is growing markedly. From 1990-2010, the number of years lived with disability has risen by 21% (Figure 4). Traditionally due to congenital handicap or physical injury, disability has increased due to mental, depressive, and behavioral disorders; musculoskeletal impairments; and compromised functioning due to diabetes and other chronic diseases.
**Policy Challenges** – The Chinese Government recognizes and has already launched major policies in response to these changing dynamics. In *China White Paper on Healthcare*, the Government outlines a plan for tackling NCDs by integrating prevention, early diagnosis, and appropriate treatment along with improved monitoring, surveillance, and electronic record keeping. The *White Paper* calls for mobilizing resources at the China CDC, National Cancer Center, and the National Center for Cardiovascular Diseases. Regarding disability, the Government has formulated a new mental health law to protect the rights of patients and strengthen the network of prevention and treatment.

These policies signal the beginnings of a more comprehensive and systematic policy response to China’s three major health transitions. Effective policies will need to address both the social determinants of health and the healthcare system.

**Policies on social determinants of health** – What are the policy implications of the three transitions in China? Aging, urbanization, migration, chronic diseases, and disability will impact multiple development sectors – housing, education, social security, labor, environment, and others -- and all of these development sectors will also affect health. Health policies must therefore engage these allied sectors.

Government may consider addressing the two major risk factors associated with all top-ranking health problems: environmental and behavioral. While Government regulation (using authoritative power) must be strengthened to effectively control environmental risks, Government must also increase investment in information and education (using persuasive power) to modify people’s behavior and lifestyle.

**Policies on health systems reform** – The five pillars of the Government’s health care reform should be systematically re-examined to tackle the three transitions. Public health prevention will call for multi-sectoral engagement, with education and mass media supporting large-scale changes in lifestyle and regulatory policies in food, drugs, salt intake, transport, etc. China’s healthcare system needs to strengthen emergency medicine, long-term care, rehabilitation, and mental health services. Addressing the challenge of NCDs will require reshaping primary health care, which has been mostly targeted at maternal-child health. Other reforms will have to be refashioned in essential drugs, hospital management, and health professional education.

The three great transitions, while global in scope, have distinctive Chinese characteristics. China’s enormous population size and inter-regional diversity will affect the evolution of all three transitions; policy responses must therefore be tailored to different regions. Nevertheless, the shared challenges and lessons learned from China’s experience represent huge opportunities for cross-national learning that can benefit each and every country.

**References**
Global/China GBD Studies

Figure 1: Percent Change in Under-5 Deaths, 1970 to 2010

Figure 2: Ranks for top 12 premature deaths from year 1990 to 2010, China
COPD= chronic obstructive pulmonary disease
Figure.3 Top risk factors for mortality and morbidity in 2010
DALY= disability adjusted life years; cumulative number of years lost due to mortality and morbidity

Figure.4 Disability by cause and age in 2010
YLD = year lived with disability

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