

China's Multisectoral Approach to Chronic Disease



Lijing L. Yan^{*,†,‡}, Lingzhi Kong[§]

Kunshan and Beijing, China; and Durham, NC, USA

According to the Chinese noncommunicable chronic diseases (NCD) status report released in January of 2016, over 86% of all deaths in 2012 were due to NCD, an estimated 8.4 million deaths in 1 year [1]. China is home to the largest population in the world as well as to the largest number of NCD patients, but the massive size of the patient population and related health, social, and economic burden is not the only problem in NCD that China faces. The rate of increase in population aging and NCD burden has even outpaced the astonishing rate of economic development since 1978 [2]. The past few decades also witnessed the challenges and achievements of the Chinese society in combatting NCD. In this brief country highlight, we provide a summary of these challenges and achievements primarily from the governmental perspective.

Until 1993, the main NCD-related governmental initiatives were the establishment of the National Prevention and Control Offices for major NCD such as cancer (1969), heart disease (1987), and stroke (1987). Another early initiative was national disease surveillance surveys in China, dating back to as early as 1958 to 1959 (hypertension survey) and 1973 to 1975 (cancer death survey). A concerted national effort for prevention and control of NCD originated in 1994 when the Epidemic Prevention Division (“Fangyi Si”) of the then Ministry of Health (now part of the National Health and Family Planning Commission) was expanded and renamed as “Bureau of Disease Prevention and Control.” As part of the expansion, the Bureau founded the first national Department of Chronic Non-Communicable Disease Control. Another milestone was the establishment of the National Center for NCD Prevention and Control in 2002 under the National Center for Disease Control and Prevention (CDC). By 2008, 96.9%, 47.7%, and 21.8% of provincial, municipal, and county-level (rural) CDCs, respectively, had NCD departments [3]. Nevertheless, the proportion of personnel engaged in NCD prevention and control was still below 5% of all CDC staff by 2012 (internal report, National CDC).

Together with the growth in institutional capacity in the 1990s and 2000s, national strategies against NCD were formulated [4]. In 1998, the Ministry of Health specified the “six changes” for NCD prevention and control—from specialist actions to governmental actions, from research and clinical treatment to prevention, from high level to grass-root level, from urban only to both urban and rural, from professional actions to public actions, and from health sector to the whole of society. In 2001, these 6 changes were further delineated into “ten shifts”—shifts

from diseases to health, from patients to population; from health care to prevention and well-being; from hospitals to communities; from emphasizing disease prevention and control to the harmony of physical and mental well-being and the environment; from health sector to multiple sectors and the whole society; from specialists to interaction between specialists and general practitioners; from physicians only to team management and joint participation of physicians, nurses, and public health practitioners; from medical treatment to holistic management; and from emphasizing cure to medical services and care.

The approaches in NCD prevention and control practices were summarized as “3-3-3”—3 populations (general population, high-risk population, and patient population), 3 phases (risk factor control, early screening and detection, and evidence-based treatment), and 3 technical methods (health promotion, health management, and disease management) [4]. The “population-wide healthy lifestyle action” initiated in 2011 was an example of risk factor control through health promotion targeting the general population. The slogan was “harmonize my life, being a healthy Chinese” and the key message was “1-2-1,” that is, 10,000 steps daily (containing the number “1” in Chinese), achieving energy balance in eating and activity (containing the number “2” in Chinese), and staying healthy throughout life (containing the number “1” in Chinese). Although there has been no formal evaluation of this program, initial evidence has demonstrated that this action spread to 28 out of 30 provinces or provincial-level administrative regions. Many urban and rural areas built exercise equipment in parks, plazas, and neighborhoods and improved the physical environments to foster a more active life-style. Another example is building the “national-level comprehensive NCD prevention and control demonstration districts,” ongoing since 2011. To become a comprehensive demonstration district requires integrated effort from not only the CDC and health department but also other sectors in the local government in reaching specific targets in district-wide surveillance, screening, and health care, and community-based prevention and control for NCD [5]. The number of demonstration districts has reached 1,608 as of June 2016 [5].

Although NCD prevention and control was not an explicit goal of the national health care reform that started in 2009, it was related to all of the 5 targets of the reform—basic health care security, essential medicine formulary, grass-root health care facilities, basic public health services, and public hospital reform pilots. This first phase of the

The authors report no relationships that could be construed as a conflict of interest.

From the *Global Health Research Center, Duke Kunshan University, Kunshan, China; †Duke Global Health Institute, Durham, NC, USA; ‡George Institute for Global Health at Peking University Health Science Center, Beijing, China; and the §Chinese Preventive Medicine Association, Beijing, China. Correspondence: L. L. Yan (lijing.yan@duke.edu).

GLOBAL HEART
© 2016 World Heart Federation (Geneva). Published by Elsevier Ltd. All rights reserved.
VOL. 11, NO. 4, 2016
ISSN 2211-8160/\$36.00.
<http://dx.doi.org/10.1016/j.gheart.2016.10.026>

reform from 2009 to 2014 received mixed evaluations [6]. It nonetheless paved the way for the current dialogues and policies on health care reform. The recent emphases on “hierarchical medical system,” “bidirectional referral system,” and “signing contracts” with community-based family physicians or village doctors definitely resonated with expert consensus on the need for building up community-based primary care for effective NCD prevention and control [7].

The Chinese government actively contributed to the 2011 United Nations’ High-Level Meeting on NCD in September 2011. A mere 8 months later on May 8, 2012, the first ever 15-ministry action plan for NCD prevention and control was issued jointly by 15 Chinese state governmental ministries [8]. This multisectoral policy document was a prime example of the “whole of government” principle promoted by the United Nations meeting. This action plan included about 20 specific measurable targets by 2015, such as national average daily salt intake below 9 g and a 5% reduction in stroke mortality. However, there is no formal evaluation yet to examine whether these targets have been achieved.

Also in 2011, the then Ministry of Health issued guidelines for basic public health service equalization that for the first time, stipulated a public health approach for management of hypertension and diabetes. This policy was supported by an earmarked state public health fund of 25 yuan (about \$4 U.S.) per capita per annum with matching local governmental fund in certain areas. The amount has been increasing each year since then. Reforms in health insurance have also been under way to bring basic coverage to nearly 100% of the Chinese population under separate schemes with descending benefit levels from urban employees, urban residents, to rural residents. In 2016, initiatives to merge these schemes and equalize benefit levels across schemes have been spearheaded in some provinces. More recently, the “13th Five-Year Plan for Economic and Social Development,” still in the making as of June 2016 thus yet to be formally publicized, includes specific health-related targets for “Healthy China 2020” and sustainable development goals such as reducing premature NCD mortality. According to trusted sources, NCD prevention and control is likely to be specifically linked to political performance evaluation in these new plans.

There are many challenges in curbing the tide of NCD in China, including risk factor control (tobacco

use, high sodium intake, and hypertension and diabetes in particular), lack of investment on prevention, need for more profound and effective health system reform, emergent problems (e.g., environmental pollution and mental health), educational reform in public health and medicine, and health-related human resource capacity building [2,4,9]. Lack of rigorous comparative cost-effectiveness evaluation of governmental policies and programs is also a problem. Nevertheless, awareness of the severity of the NCD problem has been heightened among both the public and various levels of the government. Investments and advancements—both national and international—on research and practices in NCD prevention and control have been on the rise. Therefore, despite these and other long-standing and new challenges, we have reasons to be hopeful that our future effort in NCD prevention and control in China and globally will be more effective than that in the past, and that these efforts will bring risk reduction and health benefits to millions of people.

REFERENCES

1. Bureau of Disease Prevention and Control at the Chinese National Health and Family Planning Commission. Nutrition and Non-Communicable Disease Status Report of Chinese Residents 2015 [in Chinese]. Beijing: People’s Medical Publishing House; 2016.
2. Huang C, Yu H, Koplan JR. Can China diminish its burden of non-communicable diseases and injuries by promoting health in its policies, practices, and incentives? *Lancet* 2014;384:783–92.
3. Yang G. Report of the 2008 National Survey on the CDC System Capacity in NCD Prevention and Control [in Chinese]. Beijing: People’s Medical Publishing House; 2010.
4. Kong L. Strategic changes and practices in chronic non-communicable disease prevention and control in China [in Chinese]. *Zhonghua Yu Fang Yi Xue Za Zhi* 2010;44:11–3.
5. China CDC Chronic Non-Communicable Disease Prevention and Control Center. Available at: <http://www.ncd.org.cn/Demo>. Accessed July 18, 2016.
6. Blumenthal D, Hsiao W. Lessons from the East—China’s rapidly evolving health care system. *N Engl J Med* 2015;372:1281–5.
7. Checkley W, Ghannem H, Irazola V, et al. Management of NCD in low- and middle-income countries. *Glob Heart* 2014;9:431–43.
8. National Development and Reform Commission, Ministry of Health, Ministry of Education, Ministry of Finance, et al. (15 ministries). China NCD Prevention and Control Action Plan 2012–2015 (in Chinese). May 8, 2012. Available at: <http://www.nhfdc.gov.cn/jkj/s5878/201205/167d45ff9ec7492bb9a4e2a5d283e72c.shtml>. Accessed July 18, 2016.
9. Li LM, Jun LV. History and current status of research and practices in the prevention and treatment of chronic diseases in China (in Chinese). *Zhonghua Liu Xing Bing Xue Za Zhi* 2011;32:741–5.