Online Appendix

Strengths, Weaknesses, Opportunities and Threats analysis: CMHS in China

Strengths	Weaknesses
• *Financial resources and political stability.* Since the market reform process began in 1979, China has become the world's second-largest economy while maintaining its political stability. The new leadership of the ruling Chinese Communist Party was confirmed in the 12th National People's Congress held in March 2013 in Beijing without incident, suggesting continued stability. • *Mental health legislation.* For the first time in history China has a mental health legal framework; the newly passed National Mental Health Law (NMHL) will be implemented from May 1st 2013 (1). This new development brings both strengths and huge challenges. • *International collaboration.* Since the late 1980s, there have been many fruitful exchanges between China and Western countries, spanning various projects from clinical trials of new psychotropic drugs to pilot tests of community-based psychosocial interventions (such as clubhouses and work rehabilitation). These are expected to continue to inform the development of CMHS. • Increased awareness of mental health issues among senior officials. Terms such as "psychological health," "psychological harmony," and "psychological wellbeing" (*xingfu gan*, 幸福感) are increasingly used in government publications and official	• *Grossly inadequate government investment.* Only 2.4% of the total health budget (some sources quote between 1% and 4%) is spent on mental health (2). The equivalent figures (all 2005) for the neighboring countries/cities were 6.1% for Singapore (down to 4.1% in 2011) (3) and 8.7% for Hong Kong (up to 10.3% in 2011) (3). The figures are 6.0% in the US and 10.0% in the UK. The percentage of the mental health budget invested in CMHS is unclear. • *Unaffordable CMHS.* At least a quarter of those with a moderate and severe mental disorder have never received any treatment (4). The main reason for unaffordable access to healthcare in China is the lack of insurance coverage. Before China's economic reform in 1979, Chinese citizens were covered by the Cooperative Medical System (CMS) in rural areas and the Government Insurance Scheme and Labor Insurance Scheme in urban areas. After the reform, the funding base of the nation's near-universal coverage scheme was no longer available; it was replaced by a city-based social health insurance scheme that is financed by employer (6% of the employee's wage) and employee (2% of their wage) contributions. The collapse of the CMS has left up to 90% of rural citizens uninsured- mainly low-wage farmers (5). Out-of-pocket payment as a share of total health spending increased from 20% in 1978 to approximately 60% in 2002, one of the highest payment shares compared to neighboring

pronouncements (26). Undoubtedly, government officials will face the challenge of promoting the ideology of wellbeing as well as treating psychiatric symptoms, lowering homicidal and suicidal behaviors, and thus maintaining social security and stability (6).

countries/cities (5). As a result, less than 15% of the population has health insurance that covers mental illness (2). The unaffordable CMHS was also explained by a disproportionately high unemployment rate among people with mental illness.

- *Uneven urban-rural distribution of resources.* After three decades of economic reform and hyper-growth, by the end of 2011 there were more people (691 million) living in urban areas than rural areas (657 million) for the first time in Chinese history. Although China's urbanization program lifted more than 200 million people out of poverty, the country has the widest wealth gap between rural-urban areas in Asia, which means there are fewer resources to support people with mental illness in the community. This impacts the already very small mental health workforce (e.g., doctors and nurses) who have specialized skills and are working in the community, making them often less willing to work in rural areas.

- *Underdeveloped workforce.* Mental health work is not considered attractive, leading to problems with standards of training, understaffing, a generally underdeveloped workforce (6, 7) (lacking, for example, doctors, nurses, social workers, occupational therapists, and counselors with specialist knowledge in mental health), and poor facilities. The underdeveloped workforce may be also attributable to the stigma associated with mental illness and the government's meager investment in mental health compared to other specialties.

- *Inadequate baseline information.* We

	have a very limited understanding of the rehabilitation needs and caregiving burden of people with severe mental illness living in the community and their families. This is particularly true for groups with special needs, such as those who have never had treatment or who are homeless or suffering from addiction (8). There is also a lack of valid and up-to-date national data on the prevalence and incidence rates of psychiatric disorders. To fill this knowledge gap, the third author will be implementing two national projects in 2013: the National Epidemiological Survey of Mental Disorders and the Study of Disease Burden of Mental Disorders and Health Resource Utilization.
Opportunities	**Threats**
• *The government's new investment in health expenses.* Between 2003 and 2009, the central government increased its health budget from RMB 83.1 to 127.7 billion. In April 2009, China launched its health-care reform plan to spend an additional RMB 850 billion (about US$125 billion) "with the goal of provision of affordable and equitable basic health care for all by 2020" (9), p. 833) covering five areas: insurance coverage of more than 90% of the population, meeting everyone's primary needs of medicine nationwide, improving the primary care system and managing referrals to specialist care and hospitals, making public health services available for every Chinese citizen, and conducting public hospital reforms. The remaining challenge is to address the root problem of "rapid cost inflation caused by an irrational and wasteful health care delivery system" (p. 460), which is the very same issue	• *Rising level of stress and mental health problems.* Given the rapid modernization and urbanization of rural areas, the fast-paced lifestyle, and growth in competition at work and school, mental health problems are expected to rise. Local Chinese health authorities reported increased prevalence estimates of severe mental illness from 5.4% in 1970 to 11.1% in 1980 and 13.4% in 1990 (15). The burden of psychiatric care ranks first among illnesses. The cost of treating mental disorders is projected to account for a quarter of total expenditure on healthcare by 2020 (15). • *Transition from psychiatric hospitals to the community.* The NHML may result in large numbers of individuals being discharged from psychiatric institutions. It is likely even more pressure will be placed on families to look after severely ill people at home with little support or access to effective treatment.

confronting the United States on the other side of the Pacific (5).

- *Learning from existing programs.* One example is the successful "686 Project" in integrated mental healthcare. The lessons learned, such as the provision of basic psychiatric care in rural communities with support from specialists, will continue to inform the development of CMHS models that fit the specifics of Chinese culture and context (10).

- *The emergence of culturally responsive interventions.* Clinical trials over the last 20 years have demonstrated promising outcomes for some popular Chinese healing methods, such as mindfulness training (11) and qigong (12).

- *Potential to develop better community-based services.* In China, core mental health services (such as psychiatric hospitals) are provided by different ministries or agencies, including the Ministries of Health (65%), Civil Affairs (22%), and Public Security (3%). The rest goes to Industry, Mining and Railways; the People's Liberation Army; and local collectives. The so-called "scarce resource but *oversupply*" (13) dilemma highlights the notion that mental health resources are scarce relative to demand, concentrated in big cities (common in developing countries; (14) and prohibitively expensive. Some studies put the psychiatric bed occupancy rate as low as 40%. Effective co-ordination of CMHS across locations remains a pressing challenge.

- *Potential for better mental health literacy.* More than 6 million people

- *Migrant workers' needs.* An estimated 200 million migrants (most of whom have moved to the cities) have no health coverage at their work location and are not able to access services in the city if they hold a "hukou" (户口 or household registration) in a rural area (16). If nothing is done, this could lead to an increase in the number of untreated cases and a greater burden on the already overloaded mental health system.

- *Stigma and discrimination*. Chinese people place a heavy stigma on severe mental illness. A possible explanation is China's collectivistic cultural orientation, in which conformity to norms is highly desirable and surveillance is high. Therefore mental illness or any deviant behavior is often devalued and stigmatized (17,18).

	graduate from Chinese universities per year, and more than 500 million use the Internet regularly and may therefore access information on issues related to mental health (e.g., stress management, detecting early signs of depression).

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