Mental health in the people’s republic of China: An epidemiological journey

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Seven phases in the evolution of modern China’s mental health services

- Pre-1949 Republican era
- 1949-1965 Post liberation
- 1966-1976 Cultural Revolution
- 1977-1989 Early Reform era
- 1990-2002 Late reform era
- 2002-2011 Post-SARS era
- 2012- First National Mental Health Law
<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Population (million)</th>
<th>Number of psychiatric beds</th>
<th>Beds/100,000 people</th>
<th>Number of psychiatrists</th>
<th>Psychiatrists/100,000 people</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1957</td>
<td>630</td>
<td>11 000</td>
<td>1.7</td>
<td>400</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>1300</td>
<td>146 000</td>
<td>11.2</td>
<td>18900</td>
<td>1.45</td>
</tr>
<tr>
<td>United States</td>
<td>1956</td>
<td>150</td>
<td>520 000</td>
<td>346.7</td>
<td>7000</td>
<td>4.67</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>300</td>
<td>223 000</td>
<td>74.3</td>
<td>40000</td>
<td>13.33</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1956</td>
<td>50</td>
<td>135 000</td>
<td>270.0</td>
<td>3000</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>60</td>
<td>35 000</td>
<td>58.3</td>
<td>6600</td>
<td>11.00</td>
</tr>
</tbody>
</table>

Xie B. Shanghai Archives Psychiatry 2012 (1)
1. ‘Psychotic Psychiatry’ (1977-1990)
Challenges to the development of mental health services in China (A)

- Few if any services in rural areas
- Urban services focused in specialty hospitals
- No incentives to provide community services
- Low status of mental health professionals
- General physicians don’t provide mental health services
- Few mental health nurse practitioners, social workers and clinical psychologists
- Social changes are leading to the need for new types of mental health services the current system is ill-equipped to provide
Challenges to the development of mental health services in China (B)

- Stigma prevents sufferers from seeking care
- No organized family movement to lobby for better services
- The legal framework for the protection and supervision of the mentally ill is not yet complete
- Difficult to implement cross-sectoral strategies to prevent and manage mental health problems
- Administrative structure for managing services is ineffective
- Low quality of mental health services research
2. Mortality statistics released by Ministry of Health (early 1990s)
Proportion of Total Deaths Due to Suicide: China 1995-1999
Suicide Rates in China 1995-1999

- Rural females
- Rural males
- Urban females
- Urban males

Age Group
Suicide Rate per 100,000
Locations of 23 sites included in national psychological autopsy study
3455 INTERVIEWS OF 1799 CASES

- 168 interviews for 87 child deaths (<10)
- 44 interviews of 22 cases lost in mail

3243 INTERVIEWS OF 1690 ADULT CASES

- 30 subjects with no death certificate
- 60 subjects not suicide or accident
- 9 subjects no psychiatric data

3093 INTERVIEWS OF 1596 CASES

- 895 SUICIDES
- 701 ACCIDENTAL DEATHS

DATA COLLECTION FOR THE PSYCHOLOGICAL AUTOPSY STUDY
Psychiatric diagnosis in 454 male and 441 female completed suicides from the national psychological autopsy study.
Premeditation in attempted suicide

Time from FIRST considering suicide to making the suicide attempt in 590 individuals who made serious suicide attempts:

<table>
<thead>
<tr>
<th>Time Duration</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 minutes or less</td>
<td>37%</td>
</tr>
<tr>
<td>10 minutes or less</td>
<td>46%</td>
</tr>
<tr>
<td>2 hours or less</td>
<td>60%</td>
</tr>
</tbody>
</table>
Method of suicide among 454 male and 441 female completed suicides from the national psychological autopsy study
Data from LAMIC countries is challenging conventional wisdom about suicide

- Rapid urbanization does not, necessarily, lead to increased rates
- The heavy predominance of male suicides (3:1 in most Western countries) is not seen in China and other Asian countries
- Mental illness is NOT a precondition for suicidal behavior
- The ‘valence’ of risk and protective factors such as divorce and religious affiliation are context and time dependent
- The role of specific life events—which can change over time—is less important that the cumulative stress of all life events
- Chronic and acute stress are independent risk factors for suicide that may work on different pathways
- Risk factors are largely additive
- Pesticide ingestion is, by far, the most common method of suicide in the world
### Different estimates of point prevalence of mental disorders in China

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>N</th>
<th>Affective disorders (%)</th>
<th>All disorders (%)</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>12-sites</td>
<td>38,136</td>
<td>0.24</td>
<td>3.28</td>
<td>[ ≥15] PSE; ICD-9</td>
</tr>
<tr>
<td>1993</td>
<td>7-sites</td>
<td>19,233</td>
<td>0.35</td>
<td>2.63</td>
<td>[ ≥15] PSE; ICD-9</td>
</tr>
<tr>
<td>2003</td>
<td>Beijing</td>
<td>2,633</td>
<td>2.5</td>
<td>9.1</td>
<td>[ ≥18] CIDI; ICD-10 (12-month)</td>
</tr>
<tr>
<td>2003</td>
<td>Shanghai</td>
<td>2,568</td>
<td>1.7</td>
<td>4.3</td>
<td>[ ≥18] CIDI; ICD-10 (12-month)</td>
</tr>
</tbody>
</table>
### Proportion of Total Disease Burden (using DALYs) for 6 Major Categories of Diseases and Injuries in China (2004)

<table>
<thead>
<tr>
<th>Category</th>
<th>males and females</th>
<th>males</th>
<th>females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>rank</td>
<td>% of all burden</td>
<td>rank</td>
</tr>
<tr>
<td>Neuropsychiatric Conditions and Suicide</td>
<td>1</td>
<td>20.4</td>
<td>1</td>
</tr>
<tr>
<td>Cardiovascular Diseases</td>
<td>2</td>
<td>12.2</td>
<td>3</td>
</tr>
<tr>
<td>Unintentional Injuries</td>
<td>3</td>
<td>11.2</td>
<td>2</td>
</tr>
<tr>
<td>Sense Organ Diseases</td>
<td>4</td>
<td>10.3</td>
<td>5</td>
</tr>
<tr>
<td>Malignant Neoplasms</td>
<td>5</td>
<td>9.6</td>
<td>4</td>
</tr>
<tr>
<td>Respiratory Diseases</td>
<td>6</td>
<td>7.6</td>
<td>6</td>
</tr>
</tbody>
</table>

5. Four-province mental health epidemiological study (2001-2005)

[Diagnosis made by psychiatrists using semi-structured interview]
Sites of the CMB-supported psychiatric epidemiology study

GANSU, Tianshui: N=10,249 [CMB]
Regional Psychiatric epidemiology study

QINGHAI: N=11,178 (CMB)
Provincial psychiatric epidemiology study

QINGDAO: N=4,776 [Qingdao]
Regional psychiatric epidemiology study

SHANDONG: N=22,718 [CMB]
Provincial psychiatric epidemiology study

ZHEJIANG: N=14,083 [WHO]
Provincial psychiatric epidemiology study

HEBEI: N=24,000 [CMB]
Provincial psychiatric epidemiology study (not included in current report)
Flowchart for the 4-province mental health epidemiological project in China

Location
- Shandong province
- Zhejiang province
- Qinghai province
- Gansu province
- Total sample

Sampling frame (individuals aged ≥18 years)
- Shandong province: 68.7 million
- Zhejiang province: 38.0 million
- Qinghai province: 3.7 million
- Gansu province: 2.3 million
- Total sample: 112.8 million

Primary sampling sites
- Shandong province: 28 urban, 68 rural
- Zhejiang province: 42 urban, 100 rural
- Qinghai province: 14 urban, 44 rural
- Gansu province: 12 urban, 55 rural

Selected individuals
- Shandong province: 28784
- Zhejiang province: 14410
- Qinghai province: 12001
- Gansu province: 11359
- Total sample: 66554

Completed first-stage screening
- Shandong province: 27494
- Zhejiang province: 14083
- Qinghai province: 11178
- Gansu province: 10249
- Total sample: 63004

Selected for second-stage diagnostic examination
- Shandong province: 6664
- Zhejiang province: 5273
- Qinghai province: 2783
- Gansu province: 2878
- Total sample: 17598

Completed diagnostic examination
- Shandong province: 6461
- Zhejiang province: 4660
- Qinghai province: 2718
- Gansu province: 2738
- Total sample: 16577

3550 did not complete screening
- 1588 refused
- 1057 were never at home
- 769 identified households unoccupied
- 97 serious physical illness*
- 39 other reasons†

1021 did not complete examination
- 810 not interviewed due to time or personnel constraints
- 148 refused
- 39 not located
- 24 only completed part of examination
Rates of current mental disorders among 63,004 randomly selected community members 18 years of age and older from Shandong, Zhejiang, Qinghai and Gansu (2001-2005)

<table>
<thead>
<tr>
<th>Any current mental disorder</th>
<th>%</th>
<th>95% confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any current mental disorder</td>
<td>17.5%</td>
<td>16.6% 18.5%</td>
</tr>
<tr>
<td>mood disorders</td>
<td>6.1%</td>
<td>5.7% 6.6%</td>
</tr>
<tr>
<td>anxiety disorders</td>
<td>5.6%</td>
<td>5.0% 6.3%</td>
</tr>
<tr>
<td>substance abuse (primarily alcohol)</td>
<td>5.9%</td>
<td>5.3% 6.5%</td>
</tr>
<tr>
<td>psychotic disorders (schizophrenia)</td>
<td>1.0%</td>
<td>0.8% 1.1%</td>
</tr>
<tr>
<td>organic mental disorders</td>
<td>0.2%</td>
<td>0.2% 0.3%</td>
</tr>
<tr>
<td>other mental disorders</td>
<td>0.3%</td>
<td>0.3% 0.4%</td>
</tr>
</tbody>
</table>

* adjusted for sampling design and clustering and post-stratified to sampling frame of 113 million adults
## Disability and care-seeking among those with a current DSM-IV diagnosis

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Level of disability</th>
<th>Treatment seeking (in lifetime)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>mild</td>
<td>moderate-severe</td>
</tr>
<tr>
<td>ANY DIAGNOSIS</td>
<td>6322</td>
<td>75.9%</td>
<td>24.1%</td>
</tr>
<tr>
<td>mood disorders</td>
<td>2657</td>
<td>61.1%</td>
<td>38.9%</td>
</tr>
<tr>
<td>anxiety disorders</td>
<td>2177</td>
<td>77.7%</td>
<td>22.3%</td>
</tr>
<tr>
<td>substance abuse</td>
<td>1477</td>
<td>96.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>disorders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>psychotic disorders</td>
<td>387</td>
<td>14.6%</td>
<td>85.4%</td>
</tr>
<tr>
<td>organic disorders</td>
<td>132</td>
<td>34.7%</td>
<td>65.3%</td>
</tr>
<tr>
<td>other disorders</td>
<td>153</td>
<td>59.4%</td>
<td>40.6%</td>
</tr>
</tbody>
</table>
The most important question about mental illnesses is NOT

How many people are there with mental illnesses?

The most important questions are:

• What proportion of those who meet diagnostic criteria of mental illnesses have moderate to severe social or occupational disability due to the mental illness?
• Do those with mental illnesses and their family members know they have a treatable condition?
• Are they willing to seek psychological treatment?
• What treatment services are available to them?
• Are their general doctors able to recognize and treat common mental disorders?
• How affordable and effective are the available services?
Providing services to 173 million mentally ill Chinese

• Projecting our results to the nation, there are an estimated 173 million adults with current mental disorders in China among whom 158 million have never sought treatment. About one-quarter of them are moderately to severely disabled because of their condition.

• Addressing a problem of this magnitude in LMIC requires a major redistribution of limited societal and health resources that will only occur with the active participation of powerful political, economic, social and professional stakeholders in the community.

• Effective promotion of mental health in LMIC also requires a detailed appreciation of the historical trajectory of political, social, economic and health system changes in the country or region.
6. China’s revolutionary mental health law (1986-2012)
7. What’s happened to suicide rates?
Proportion of the Chinese population that reside in cities or towns

Year

Percent of total population

Proportion of the Chinese population that reside in cities or towns
Number of persons per 1000 residents who are divorced
Sex-specific suicide rates in Taiwan, 1986-2010
Suicide Rate in China 1987-2006

> 1 million less lives lost to suicide over the 20 years

>100,000 less suicides per year in 2006 than in 1987
THANK YOU FOR LISTENING