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Are Expectations for Community Mental Health Increasing Among Older Adults in China?

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Abstract

Objective—In recent years the Chinese government began expanding access to social services to older adults. This study examined whether older adults have increasing expectations that psychological consulting services will be provided by their communities.

Methods—We analyzed the responses of participants in a prospective cohort study at two time points: 2005 and 2008. We utilized logistic regression with survey weights to determine whether there were any changes in attitudes towards community mental health services during the study period, and to determine the correlates of this change.

Results—The study participants had a higher expectation that their government would provide psychological consulting services in 2008 than 2005. The multiple logistic regressions conducted indicated that there was a statistically significant relationship between expectations for community provided psychological consulting services and being a rural resident (Odds Ratio (OR): 0.553, 95% CI: (0.353, 0.865), Change in Gross Regional Product Per Capita (OR: 0.967, 95% CI: (0.937, 0.997)), the interaction of those two variables (OR: 1.07, 95% CI: (1.03, 1.11)), and increase in psychological wellbeing (OR: 0.971, 95% CI (0.954, 0.988)).

Conclusions—Our study highlights the role that economic development can play in changing attitudes towards community provided psychological consulting services. It suggests that as economic development occurs, expectations for local communities to provide mental health services will increase.

Keywords

Community Mental Health; Chinese Mental Health Care; Mental Health Care of Older Adults; Economic Development and Mental Health

Disclosures

The authors report no conflict of interest.

As the number and proportion of older adults in large, developing nations like China continues to increase, one of the most important policy questions to consider is, what health services do the older adults expect their communities to provide for them? In addition, it is important to know how these expectations are changing over time. A particular area where nearly nothing is known is community mental health services. This is an important area due to the high prevalence and relatively low utilization of mental health services in China. A study of four provinces in China found that more than 17% of individuals had a diagnosable mental disorder, yet only 5% of those individuals had received care from a mental health professional (Phillips et al., 2009). Further, a recent study of older Chinese adults found nearly 40% prevalence of at least one depressive symptom (Yu, Li, Cuijpers, Wu, & Wu, 2012). Studies have shown that mental illness leads to significantly increased risk for dementia (R. Chen et al., 2008), physical illnesses and infectious diseases (Cohen & Herbert, 1996), and suicide (Xia Li, Xiao, & Xiao, 2009). Further, in the United States, individuals with multiple chronic conditions, which include severe mental illnesses, tend to require greater amounts of services and medications than the general population (G. Andersen, 2010) which can strain the resources of the health care system. Recognizing these issues, the Chinese Government implemented a mental health reform program between 2002 and 2010 with goals including “improving the knowledge and raising the awareness of mental health among all citizens,” and “strengthening mental health services to decrease burden and disability” (Liu et al., 2011). More generally, it is of importance to policymakers and health care workers to understand which health services older adults expect their communities to make available to them.

In this study we propose three research questions: Has there been an increase in individual expectations for community health centers and senior centers to provide government-financed psychological consulting services, which is understood in Chinese to include assessment and counseling, among China’s older adults? 2) Are being an older respondent, having rural residence, or changes in the local economic environment associated with changing expectations for communities to provide psychological consulting services among China’s older adults? 3) Do these associations still exist while controlling for changes in health status, regional economic development, demographic characteristics and insurance status? In answering these questions we will provide a more comprehensive understanding of the changing expectations for community mental health services in China.

The theoretical framework we used to conceptualize our assessment of changing expectations for community provided psychological consulting services is the 1995 modified Andersen’s behavioral model of health service utilization. This model provides context for understanding changing expectations that services should be provided by the community. It defines service utilization as being determined by three factors. First are “predisposing” factors, defined as characteristics related to whether a person would actually utilize services if they were available. Second are “need” factors, or having a problem that could be remedied by utilization of health goods or services. Finally, there are “access” factors, including factors associated with the ability to get to and receive health services (R. M. Andersen, 1995). This model also shows that the external environment, which includes economic factors, influences individual attitudes about health services. Using Andersen’s model to explain changing attitudes towards health services, we categorize age and urban/

rural residence as predisposition factors and local economic conditions as external environment.

Whether or not an individual is among the oldest old, lives in an urban or rural residence, and local economic conditions are all important to consider for several reasons. The oldest old in China “are more likely to develop functional disabilities and will need to be cared for by family members or other paid workers at some time during their advanced age” (Wu, Mao, & Zhong, 2009, Page 472). However, a study of the Swedish oldest old indicated that they have levels of psychological “resilience” equal to younger citizens (Nygren et al., 2005). Therefore it is uncertain if their expectations are more likely to change than their younger peers. This is a particularly important question to ask in China where the oldest old are soon expected to exceed 100 million (Wu et al., 2009). Urban residence is also of interest. Previous studies have highlighted the unique and important role that urban residence has on psychological wellbeing and social relationships in China that make it an important variable to isolate (F. Chen & Short, 2008; Keung Wong, Li, & Song, 2007; Xiaoming Li, Stanton, Fang, & Lin, 2006; Liu & Guo, 2007; Phillips et al., 2009; Wu et al., 2009). These include but are not limited to the isolation of rural elders (Liu & Guo, 2007), the relative lack of availability of health services in rural areas (Wu et al., 2009), and differing prevalence of various psychological disorders between urban and rural populations (Phillips et al., 2009). The urban/rural differences are truly multifaceted. Changing economic conditions have a unique relationship to mental health in China. Research has shown that the subjective wellbeing of Chinese has declined during the recent period of rapid economic growth. Further this result has been particularly true among the rural residents (Gao & Meng, 2015). Therefore we assess the interaction of change in Gross Regional Product (GRP) and rural residence to identify its relationship to expectations for community provided psychological consulting services.

Method

This study was determined to meet the definition of research not involving human subjects and exempt from IRB.

Data Sources

This study used the 2005 and 2008 waves of the Chinese Longitudinal Healthy Longevity Survey (CLHLS) that includes 15,638 older adults age 65 and older in mainland China. It contains information on a wide variety of health indicators, including measures associated with demographics, family structure, health status, and psychological wellbeing (Han & Shibusawa, 2015).

We supplemented the data with gross regional product (GRP) per capita measures for each participant’s region of residence. This data is published annually by the National Bureau of Statistics of China (“National Data,” n.d.). We retrieved this information for both 2005 and 2008, in Yuan per person (note: Chinese currency, one yuan was equivalent to \$8.28 US dollar on June 30, 2005 and \$6.86 on June 30, 2008 (Board of Governors of the Federal Reserve System, 2015)) for each of the 22 provinces and special administrative regions that was a residence of at least one study participant.

For the purpose of this study, we created a sample of individuals that participated in both waves of the survey and provided complete answers to all questions relevant to our study analysis. The total number of eligible participants in the study was 6,011.

Measures

Outcome Variable—There were two outcomes of interest for this study. The first was the answer to the question, “What kind of social services do you expect your community to provide: Psychological Consulting?” The question could be answered yes, no, or do not know. The variable was coded as 1=yes, and 0=no. Individuals answering “do not know” were dropped. It was unclear whether or not these individuals understood the question, therefore, we treated these response categories as missing at random, since we were not able to what their response categories would have been.

The second outcome of interest was whether or not an individual changed their answer to “What kind of social services do you expect your community to provide: Psychological Consulting?” from no to yes between 2005 and 2008. This was a derived value using a simple approach. If an individual in 2005 answered that they did not expect psychological consulting and in 2008 answered that they did expect this service, then the variable would be set to 1. Otherwise, it would be zero. This outcome was necessary for identifying characteristics associated with increasing expectations for community provided psychological consulting services.

Independent Variables—The independent variables we explored were either related to factors that may influence an individual’s predisposition to use services, or their external economic environment. Each of these factors influences an individual’s attitudes about whether or not they would potentially utilize certain health services (R. M. Andersen, 1995). We believe that characteristics which determine whether or not an individual might potentially utilize health services will also influence attitudes about whether the community should provide those services.

Urban & Rural Residence: We generated a binary indicator of whether or not an individual had rural or urban residence. We created this variable by merging town and urban residence into one category following previous studies utilizing the same data set which have utilized this approach (F. Chen & Short, 2008; Peng, Wu, & Ling, 2015). We then coded it rural=1, other=0.

Oldest Old: We created a dummy level variable to indicate whether or not an individual was among the ‘oldest old’ or those over 80 in consisted with the United Nations definition of the term for individuals in developing countries (see for example (United Nations, 2013)). If an individual’s age in the 2005 wave of the study was 80 or older, this variable was coded 1, else 0.

Change in Province or Special Administrative Region GRP Per Capita Interacted With Rural Residence: To create this variable we multiplied the rural variable by the difference between the 2008 GRP per capita and the 2005 GRP per capita for the region of residence.

We also included a main effect of both rural residence and change in GRP per capita in the model as well.

Control Variables

Improvement in Perceived Psychological Wellbeing: We constructed a composite measure of psychological wellbeing (F. Chen & Short, 2008). It uses the psychological wellbeing questions asked in the 2005 and 2008 waves of the study. First we consider the answers provided to the questions “How do you rate your life at present?” “Do you always look on the bright side of things?” and “Are you as happy as you were when you were younger?” These questions are scored from 1 to 5, where 1 is the most positive answer (i.e. I always on the bright side of things) and 5 is the most negative (i.e. I never look on the bright side of things). We sum these answers and take the change in the scores for each individual between the 2005 and 2008 waves of the study by subtracting the 2008 score from the 2005 score. An increase over time indicates a decline in psychological wellbeing. We then considered the questions “Do you often feel fearful or anxious?”, “Do you feel lonely or isolated most of the time?”, “Do you feel the older you get the more useless you are?” These questions are scored from 1 to 5, where 5 is the strongest disagreeing answer (i.e. I never feel lonely or isolated) and 1 is the most strongly agreeing answer (i.e. I always feel lonely or isolated). We sum these answers and again take the difference in the scores for each individual between the 2005 and 2008 waves of the study. An increase over time indicated an improvement in psychological wellbeing. We then subtract the increase over time in the answers to the first group of question from the increase over time in the second group of questions so that a positive number indicates a net positive change over time. Individuals with non-responses or answering “do not know” to any questions were dropped.

Other Control Variables: In order to isolate the effects of our independent variables of interest from other potential confounders we controlled for variables associated with demand for mental health services. These variables are gender (female=1), whether or not an individual indicated their insurance paid the majority of their health care costs in 2005 or 2008 (yes=1, and otherwise=0) (Zeng, Gu, Purser, Hoenig, & Christakis, 2010), and whether or not an individual had any formal schooling, with the variable set to one if the individual indicated they had some formal schooling. Formal schooling was included to control for the possibility that changes in expectations for mental health services were disproportionately consolidated within communities of well-educated individuals. We also created a variable for physical health at baseline, set to one if the individual indicated they had no trouble with any activity of daily living, zero otherwise. The inclusion of these variables helps eliminate confounding in understanding temporal changes in preferences for the availability of community-provided mental health services.

Analytical Approach

Our primary statistical method for evaluating changes in expectations that the community would provide psychological consulting services was a series of logistic regressions. We ran separate regressions on each of the three primary independent variables of interest; rural residence, the oldest old (age ≥ 80), and the change in GRP per Capita between 2005 and 2008 interacted with rural residents.

After we conducted our initial analysis, we added control variables for a multivariate model. From that model we were able to determine whether or not any relationships identified in the bivariate analysis were statistically significant after potential confounders were controlled for.

Analysis was conducted utilizing survey weighted logistic regression. All analysis was conducted using version 14 of Stata (StataCorp, 2015). The study oversamples older individuals and male individuals, therefore sampling weights are included with the data set. A technical report accompanying the 2005 wave supports using weighted analysis (Gu, 2007).

Results

Our study sample is described in Table 1. The sample included 6,011 individuals. The sample was 52.6% female, 46.2% were over 80 years old, on average the psychological wellbeing of the sample declined slightly over the study period. Most of the individuals did not have a medical episode where the major payer was insurance at either time period, and most of the sample had no trouble with any of the ADLs examined. The majority of the sample had rural residence (58.2%) and the average change in GRP per capita was ¥10,194. Less than half of our sample (46.2%) received any formal schooling. We see that in 2005 approximately 61.0% of our sample answered yes to the question “What kind of social services do you expect your community to provide: Psychological Consulting?” and in 2008 that number was 63.3%. This was a 2.3 percentage point increase from the 2005 level.

Table 2 presents the findings on the relationship between several variables (being among the oldest old, rural residence, changes in local economic conditions) and changing preferences for community-provided psychological consulting services among China’s older adults. We found that the interaction between change in GRP per capita and rural residence was the only factor positively, and statistically significantly, associated with an increased preference for community provided mental health services (Odds Ratio (OR): 1.07, 95% CI: (1.03, 1.11)).

Table 3 shows the results of the multivariate analysis, which were similar to the bivariate results. Again, the interaction between change in GRP per capita and rural residence is positively, and statistically significantly, associated with changing ones answer to this question from no to yes (OR: 1.07, 95% CI: (1.03, 1.11)). We also find negative and statistically significant associations for the main effects of being a rural resident (OR: 0.553, 95% CI: (0.353, 0.865)), and change in GRP per capita (OR: 0.967, 95% CI: (0.937, 0.997)), and change in psychological wellbeing (OR: 0.971, 95% CI (0.954, 0.988)).

Discussion

This study demonstrates that older adults in China are increasingly likely to expect their community to offer government financed psychological consulting services. Three years after they were first asked the questions a significant percentage of older adults had changed from not expecting their community to provide this service, to expecting it. We also find that this is strongly associated with economic growth, which the Andersen model refers to as

external environment. This is robust when controlling for a number of other factors, including changes in psychological wellbeing which Andersen classifies as a distinct construct (R. M. Andersen, 1995). This has significant implications for policy in China and in the developing world.

Increasing expectations for communities to provide government-financed mental health services in China is an important development. Due to the high levels of untreated mental illness in China, the greater expectations provide policymakers with a stronger public mandate to make these services available. The study findings may also suggest the recent push from the Chinese government for the development of community-based social services (e.g., senior centers and community health centers) for older adults (Peng et al., 2015; Peng & Wu, 2015) has led to increased expectations for these services. That push coincided with the study period, and therefore indicates that supply may in fact drive expectations for services. Therefore, our study shows that increasing the availability of mental health services to these community centers for older adults in China should be expedited. These community centers provide an essential pathway to mental health care. Finally, our study shows the role a economic growth can have on expectations for mental health services among vulnerable populations. As described above, rural residents face a unique set of challenges related to mental health (F. Chen & Short, 2008; Keung Wong et al., 2007; Xiaoming Li et al., 2006; Liu & Guo, 2007; Phillips et al., 2009; Wu et al., 2009). This may partially explain the finding that rural older adults are more likely to change their attitudes towards community mental health services as their regions become wealthier. With that said, our study does not measure stigma and, therefore, we cannot determine whether using mental health services is stigmatized in communities. Further, our research does not evaluate whether clinical need for mental health services changed during the study period. Still our results suggest that individuals increasingly see the need for these potentially lifesaving services. Again, this result is consistent even when controlling for changes in psychological wellbeing.

Our study shows that demand for mental health services among older adults will likely increase as China becomes economically developed and resourceful. This is relevant to multiple stakeholders. International agencies wanting to help China or other developing countries address their future health care needs should be aware of the role economic development can play in expectations for mental health care to be available. In addition, this study should help local governments realize the importance of mental health care. They should consider reallocating resources to community mental health services after a certain level of development is reached. Further, this study has important implications for mental health educators in the United States. As expectations for community mental health services in developing countries grows, the number of individuals from abroad travelling to the US each year to study in psychology, social work and nursing programs will also grow. It is important for the individuals working to train the workforce of the future to be aware of these trends. In addition, mental health is a global issue. Findings from this study will help researchers and educators in the United States and other countries have a greater knowledge and understanding of the disparities that exist in mental health globally”

Our study has several limitations to be noted. First, we were not able to measure whether an individual resided in a rural or urban area directly. However, we did know whether an

individual was registered as an urban resident or rural resident, and we controlled for this variable in our analysis. Further, the greatest regional economic growth was consolidated in more urbanized regions. Therefore we can infer that residents of the regions with greatest economic growth, whether their registration was rural or urban, were more likely to reside in an urban area than those residing in regions with the least economic growth.. Second, we only included individuals that completed both waves of the study. The strength of this approach is that we were able to see changes among individuals over time. The limitation is that we cannot infer about the expectations of individuals that either died during the study period or were lost to follow up. A comparison between the full cohort and the individuals meeting study criteria (providing complete answers in 2005 and 2008) indicated that, at baseline, the study participants were more likely to have better psychological wellbeing and rural residence, while less likely to need assistance with an ADL, to be among the oldest old and to be female. However, there was no significant difference in expectations for the community to provide psychological consulting services at baseline, or in the proportion of individuals with any formal schooling. Still, these differences may limit the generalizability of the findings. A final limitation of the study is that the follow up period of 3 years is short, and data was collected after significant economic development was already occurring in China. Therefore, it potentially underestimates the real change in attitudes toward community provided mental health services that took place in China as its economy developed. However, the study did coincide with the roll-out of community services to senior centers in China, and therefore was timely (Peng & Wu, 2014, 2015).

Conclusion

Our study finds a significant increase in expectations for psychological consulting services among Chinese older adults over time. It will be important to assess how the availability of these services improves the mental health of the Chinese population as time progresses. Our findings do suggest that increasing the availability of mental health services for older adults in China should be a priority. Further research is necessary to assess the optimal mix of mental health services for this population and which treatments are most cost effective.

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Table 1

Sample Characteristics

N:	6,011
Female	%52.60
Oldest Old	%46.2
Change in Psychological Wellbeing (standard deviation)	−0.987 (4.50)
Insurance Paid Majority of Health Care Costs in 2005	%12.1
Insurance Paid Majority of Health Care Costs in 2008	%17.5
No Trouble With ADLs at Baseline	%91.2
Rural Residence	%58.2
Change in Provincial GRP Per Capita (in 1,000¥) (standard deviation)	10.1942 (4.04)
Some Formal Schooling	%46.2
Expect community to provide Psychological Consulting Services (2005)	%61.0
Expect community to provide Psychological Consulting Services (2008)	%63.3

Table 2

Bivariate Models – Change in Answer to Question: “What kind of social services do you expect your community to provide: Psychological Consulting?”

	Constant Only	Rural	Oldest Old	Change in GRP (in 1,000¥) per Capita By Rural*
Odds Ratio – Weighted Logistic Regression (N=5,979)	0.290	1.095	0.942	1.07
Linearized Standard Error	.012	.091	0.083	.022
95% Confidence Interval	(0.268, 0.314)	(0.930, 1.29)	(0.792, 1.12)	(1.03, 1.11)
P-Value	<0.001	0.276	0.494	0.001

* Model Includes Main Effects for Rural (Weighted Odds Ratio: 0.539) and Change in GRP Per Capita (Weighted Odds Ratio: 0.966)

Table 3

Full Model - Change in Answer to Question: “What kind of social services do you expect your community to provide: Psychological Consulting?”

	Odds Ratio – Weighted Logistic Regression N=5,979 (Linearized Standard Error in Parenthesis)	95% CI	P-Value
Female	0.951 (0.086)	(0.797, 1.13)	0.579
Oldest Old	0.930 (0.085)	(0.777, 1.11)	0.426
Improvement in Perceived Psychological Wellbeing	0.971 (0.009)	(0.954, 0.988)	0.034
Insurance Paid Majority of Health Care Costs in 2005	1.10 (0.157)	(0.836, 1.46)	0.484
Insurance Paid Majority of Health Care Costs in 2008	0.892 (0.109)	(0.702, 1.13)	0.350
No Assistance With ADLs in 2005	0.887 (0.177)	(0.599, 1.31)	0.547
Rural Residence	0.553 (0.126)	(0.353, 0.865)	0.009
Change in GRP Per Capita (in 1,000¥)	0.967 (0.0154)	(0.937, 0.997)	0.034
Change in GRP Per Capita (in 1,000¥) By Rural	1.07 (0.022)	(1.03, 1.11)	0.001
Some Formal Schooling	1.01 (.095)	(0.844, 1.22)	0.880