Inequities in Mental Health Care After Health Care System Reform in Chile

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Most governments aspire to ensure equitable provision of health care services, regardless of citizens' ability to pay. Universal health insurance systems seem more likely to fulfill this goal, but such systems have been criticized for being inefficient and unresponsive to the needs of consumers. Opening health care systems to expanded roles on the part of private providers might bring about more competition and choice, which in turn might spur greater efficiency and consumer satisfaction.[1]

During the past 2 decades, Latin American countries have experienced considerable governmental pressure to increase the involvement of private entities in health care.[1,2] Between 1952 and the beginning of the 1980s, Chile had in place a publicly funded national health service with universal coverage, and there was a small fee-for-service private sector for the country's most affluent citizens. In the early 1980s, the Chilean military regime introduced radical reforms of the health system; among other changes, new legislation was introduced to encourage the development of private health insurance plans. Under this new legislation, workers could choose whether to invest their mandatory health contribution of 7% of their income in private or public coverage.

Anyone who chose the public-sector option had to be accepted regardless of health status or income, but in the private sector individuals were accepted only if their financial contribution matched their estimated health risk. (Health insurance companies used whatever means they deemed useful to estimate health risks and determined premiums accordingly. In addition, each year they reviewed contracts and adjusted premiums if necessary.) As a result, the country's richest and healthiest residents were attracted to the private sector, and the public health system was deprived of the financial contribution of these high-income earners.

Objectives. We compared differences in mental health needs and provision of mental health services among residents of Santiago, Chile, with private and public health insurance coverage.

Methods. We conducted a cross-sectional survey of a random sample of adults. Presence of mental disorders and use of health care services were assessed via structured interviews. Individuals were classified as having public, private, or no health insurance coverage.

Results. Among individuals with mental disorders, only 20% (95% confidence interval [CI] = 16%, 24%) had consulted a professional about these problems. A clear mismatch was found between need and provision of services. Participants with public insurance coverage exhibited the highest prevalence of mental disorders but the lowest rates of consultation; participants with private coverage exhibited exactly the opposite pattern. After adjustment for age, income, and severity of symptoms, private insurance coverage (odds ratio [OR] = 2.72; 95% CI = 1.6, 4.6) and higher disability level (OR = 1.27, 95% CI = 1.1, 1.5) were the only factors associated with increased frequency of mental health consultation.

Conclusions. The health reforms that have encouraged the growth of the private health sector in Chile also have increased risk segmentation within the health system, accentuating inequalities in health care provision.

In spite of these problems, Chile has often been cited as a virtuous model of a more pluralistic health care system.[1] However, little research has compared provision of private and public health care services in Chile. Here we focus on mental health, because it is a rather neglected field of public health, and the experiences of other countries with large private mental health sectors reveal many shortcomings.[3,4] To our knowledge, ours is the first South American study to investigate the relationship between private or public insurance coverage and the need for and use of mental health services.

METHODS

Participants and Sampling

We obtained data for this study from the Santiago Mental Disorders Survey, undertaken between 1996 and 1998 in Santiago, Chile. The sampling framework was the adult population (aged 16 to 64 years) living in private households in Santiago, representing 3 237 286 individuals. Households from Santiago's 35 boroughs were randomly selected via a probability-proportional-to-size strategy involving a 3-stage clustered design. Kish tables were used to select at random 1 eligible individual per household to be interviewed. Further details on the sampling can be found elsewhere.[5]

Variables

Psychiatric symptoms were assessed with the Revised Clinical Interview Schedule (CIS-R),[6] a structured psychiatric interview that has been used extensively in primary care and community studies conducted in Chile and elsewhere. All individuals who met *International Classification of Diseases, 10th Revison,*[7] diagnostic criteria for a depressive episode, phobia, panic disorder, or generalized anxiety or who had a score of 12 or above on the CIS-R were classified as being potentially in need of mental health care services. The use of psychiatric diagnosis alone as a proxy indicator of need for treatment has been criticized[8,9]; we strengthened our assessment of need by

adding functional disability and symptom severity.

All respondents were asked about their use of health care services during the previous 6 months. First, they were queried about outpatient medical consultations with psychiatrists or other physicians. For each consultation with a nonpsychiatric physician, respondents were asked whether the reason for the visit was for mental or physical health problems. Depending on whether mental health problems were discussed during the visit, general medical consultations were then classified as either physical or mental health consultations. Instances in which consultations involved both mental and physical problems were included in the mental health category.

Second, respondents were asked about consultations with psychologists or admissions to the hospital for mental disorders. Contact with a mental health service practitioner was defined as having seen a psychologist or doctor for a mental disorder as either an outpatient or inpatient during the past 6 months. Assessments of the validity and reliability of self-reports of such information in relation to other sources of information are seldom feasible in large population surveys, and such assessments were not made here.[9–11] However, previous research has shown that self-reports of outpatient mental health service use tend to be reasonably accurate.[11–13]

All respondents were classified as having public, private, or no health insurance coverage. Individuals in the public-sector coverage group had coverage that was free of charge and involved minimal copayments. Insurance plans among individuals in the private coverage group involved restrictions and variable copayments depending on the premiums paid. Members of the uninsured group paid out of their own pockets whenever a service was required. A small percentage of individuals (2%) who belonged to mutualities, private, nonprofit health care organizations that provide services to contributing members of special groups such as the Armed Forces and the Teachers' Union, were incorporated into the private-sector group because of the similarities between these 2 systems. Further details on health insurance distribution can be found elsewhere.[14] Data on gender, age, per capita income, number of supportive people available, and presence of self-reported physical health problems also were included in the analytical models.

Statistical Analysis

All estimates were weighted to account for sampling and household size differences. We calculated confidence intervals (CIs) adjusting for the effects of stratification, clustering, and sampling weights. Because our interest was in comparing provision of mental health services across the insurance groups, we restricted most analyses to individuals with mental disorders. Logistic regression models and crude and adjusted odds ratios were used in examining the associations between consultations for mental disorders and the independent variables. We tested for interactions with likelihood ratio tests. Stata 7.0 (Stata Corp, College Station, Tex) was used in conducting all analyses.

RESULTS

The survey response rate was 90%, and similar percentages of respondents had public- and private-sector health insurance coverage (Table 1). Women and older people were less likely to have private insurance, in keeping with official country statistics. Respondents with higher incomes, more education, and more social support were overrepresented among the privately insured.

Overall Health Service Use

Forty-six percent (95% CI=43%, 48%) of respondents reported having had a medical consultation during the previous 6 months, and 1.8% (95% CI=1.3%, 2.4%) reported having had a psychiatric consultation. Consultations were more frequent among those with private insurance coverage (53%; 95% CI=49%, 56%) than among those with public coverage (43%; 95% CI=39%, 47%) or no coverage (31%; 95% CI=24%, 39%) (P=.001). Only 4.5% (95% CI=4%, 6%) of respondents reported a hospital admission over the past 12 months, and 95% of these cases involved physical problems.

Mental Health Needs According to Health Insurance Group

Individuals in the public insurance group had the most severe illness (Table 2). This

TABLE 1—Characteristics of Respondents to the Santiago Mental Disorders Survey, by Health Insurance Group: Santiago, Chile, 1996–1998

	Health Insurance Group		
	Private (n = 1905)	None (n = 480)	Public (n = 1439)
Sample, %	42.3	12.9	44.8
Age, mean (SD), y	34.6 (13.4)	35.9 (14.5)	36.7 (14.5)
Female, %	48.3	44.7	58.8
Education level, %			
High (university)	29.2	11.5	4.8
Middle (high school)	60.3	63.6	59.8
Low (primary school or no education)	10.5	24.9	35.4
Monthly income, $, mean (SD)	355 (572)	105 (75)	88 (161)
Employment status, %			
Employed	59.6	57.6	51.5
Unemployed	2.1	4.2	5.9
Inactive	38.2	38.2	42.6
No. of individuals available as sources of social support, mean (SD)	4.3 (4.1)	3.5 (3.2)	3.3 (3.8)
Physical health problems,[a] %	14.3	15.2	21.4

Note. Values were weighted with Stata survey commands.
[a]Respondents were asked whether they were suffering from any health problems. If they answered yes, they were then asked to list their particular problems. These problems were then coded into 15 different categories. Respondents could list up to 4 health problems.

TABLE 2—Estimated Mental Health Needs, by Health Insurance Group: Santiago Mental Disorders Survey, 1996–1998

	Health Insurance Group			P	Total
	Private	None	Public		
Overall prevalence of mental disorders (n = 3870), % (95% CI)	19.1 (16.4, 22.2)	31.0 (25.1, 37.6)	33.2 (29.8, 36.7)	.000	26.9 (24.5, 29.5)
CIS-R symptom severity score (n = 975), mean (95% CI)	17.2 (16.3, 18.2)	18.0 (16.2, 19.8)	19.8 (18.9, 20.6)	.000	18.8 (18.1, 19.4)
Psychiatric disability,[a] % (95% CI)	38.5 (31.6, 45.9)	38.3 (28.7, 48.9)	51.6 (45.5, 57.7)	.010	45.7 (41.5, 50.0)

Note. CI = confidence interval; CIS-R = Revised Clinical Interview Schedule. Values were weighted with Stata survey commands.
[a]Included any mental disorder among individuals who reported being unable to engage in 1 or more usual activities owing to psychiatric symptoms.

group also exhibited the highest proportions of individuals with mental disorders, the highest CIS-R scores, and the highest proportions of individuals with disabilities. Individuals with private-sector coverage had the lowest potential mental health need.

Met and Unmet Needs

Fewer than one-twentieth of people with mental disorders had consulted a psychiatrist within the previous 6 months (Table 3). After we aggregated all possible sources of professional help, approximately one-fifth of the respondents had discussed their mental disor-

ders with a professional within the previous 6 months. Even in the private sector, fewer than one-third of enrollees with mental disorders had discussed their mental health problems with a professional. Across all insurance groups, the most frequent providers of mental health services were general practitioners.

Important differences in consultation rates for mental disorders were observed between the insurance groups. Among individuals with mental health needs, those with private insurance were almost twice as likely as those in the public sector to report consultations. This difference became even larger when compar-

isons were restricted to cases of mental disorders and disabilities. Across all insurance groups, mental health consultations were more likely among individuals with more severe psychiatric symptoms (Table 3).

Factors Determining Likelihood of Consultation for Mental Disorders

Health insurance coverage group (P=.001) and presence of disability (P=.003) were associated with mental health consultations (Table 4). The fully adjusted model showed that among individuals with mental disorders, those with private insurance coverage were

TABLE 3—Percentages of Respondents With Mental Disorders, With and Without Disability, Who Reported a Mental Health Consultation Within the Previous 6 Months, by Health Insurance Group: Santiago Mental Disorders Survey, 1996–1998

	Health Insurance Group, % (95% CI)			P	Total, % (95% CI)
	Private	Uninsured	Public		
Mental disorder (n = 975)					
General practitioner[a]	18.9 (13.3, 25.9)	13.1 (7.5, 21.9)	8.6 (6.0, 12.2)	.006	12.4 (9.8, 15.4)
Psychiatrist	7.7 (4.8, 12.0)	1.4 (0.5, 3.8)	1.8 (1.0, 3.4)	.000	3.5 (2.4, 5.1)
Psychologist	8.4 (5.5, 12.8)	4.5 (2.1, 9.2)	6.6 (3.0, 13.9)	.516	6.7 (3.6, 9.8)
Any[b]	29.2 (23.0, 36.3)	18.0 (11.3, 27.5)	15.1 (10.4, 21.5)	.004	19.8 (16.2, 24.0)
Mental disorder at more severe level (n = 477)					
General practitioner[a]	27.0 (17.8, 38.9)	18.7 (9.9, 32.7)	8.0 (5.3, 11.8)	.000	14.5 (10.9, 18.9)
Psychiatrist	9.7 (4.8, 18.5)	2.0 (0.6, 6.6)	1.1 (0.5, 2.5)	.000	3.5 (2.0, 6.0)
Psychologist	9.2 (4.6, 17.6)	4.5 (1.8, 10.7)	10.2 (4.2, 22.9)	.517	9.2 (4.9, 16.6)
Any[b]	36.9 (26.7, 48.6)	24.1 (14.0, 38.3)	17.9 (10.8, 28.2)	.020	23.7 (18.2, 30.3)
Mental disorder with disability (n = 409)					
General practitioner[a]	28.4 (17.9, 42.0)	19.6 (9.2, 37.0)	8.7 (5.2, 14.2)	.001	15.0 (11.0, 20.2)
Psychiatrist	10.8 (5.2, 20.1)	2.7 (0.8, 8.9)	1.5 (0.6, 3.7)	.000	4.2 (1.6, 6.7)
Psychologist	10.7 (5.3, 20.6)	7.7 (3.2, 17.3)	10.7 (4.3, 24.0)	.422	10.3 (5.5, 18.4)
Any[b]	41.2 (29.7, 53.7)	28.4 (15.7, 46.0)	18.8 (11.1, 30.1)	.013	25.7 (19.5, 33.0)

Note. CI = confidence interval. Values were weighted with Stata survey commands.
[a]Self-report of consultation for mental disorder only or for both physical and mental disorders.
[b]Includes consultation for mental health reasons and admission to the hospital for mental disorders.

almost 3 times more likely than those with public-sector coverage to report consultations. No interactions were observed between likelihood of consultation, insurance coverage group, and degree or presence of functional disability. Also, we found no evidence that income was associated with likelihood of consultation. Finally, when we conducted additional analyses including other socioeconomic variables (education, occupation, and quality of housing), our main findings were unaltered.

DISCUSSION

Our results revealed 2 disturbing aspects of provision of mental health care in Santiago. First, individuals with mental disorders, regardless of their insurance group, were unlikely to consult a health professional about these problems. Second, although individuals with public-sector coverage exhibited a higher prevalence of mental disorders than those with private coverage, and although their related symptoms were more severe, their rate of consultation for these disorders was the lowest of any of the insurance groups.

This large, representative general population survey showed excellent response rates, and a detailed psychiatric interview was used to measure mental disorders. We cannot compare our results with the situation that existed in Chile prior to the country's health system reform, because no studies date from that period. Although our sample was restricted to an urban setting in a single country, there are interesting lessons for other settings.

Health insurance group exhibited the strongest association with likelihood of consultations for mental disorders (OR=2.72; 95% CI=1.6, 4.6). It is unlikely that this finding is attributable to selection of individuals with mental disorders to private-sector insurance, because the prevalence of mental disorders in that insurance group was significantly lower than the prevalence in the other groups, an effect probably influenced by the risk assessments used in the private sector to determine eligibility.[15] We are not aware of other population-based studies from the developing world that have compared provision of mental health care between the public and private sectors. However, a study conducted in Brazil[16] yielded similar results; psychiatric morbidity was far more common among lower-income people, but these individuals were less likely than higher-income individuals to receive needed psychotropic medications and to consult psychiatrists.

We also found that more disabled individuals and people with more severe symptoms exhibited an increased likelihood of consultation, in agreement with studies from both developed and developing countries.[8,9,17–19] Differences in the effects of severity and disability on likelihood of consultation were more pronounced in the private insurance group than in the public insurance group. In other words, the gap in consultation rates between the private and public sectors widened among participants with the most severe symptoms and among participants with a high degree of disability.

Most studies conducted worldwide have shown that only a small proportion of individuals with mental disorders consult a health care professional about their problems, and this trend is more pronounced in developing countries.[8,9,19–21] The rate of consultation for mental disorders among psychiatric patients in our study was lower (20%; 95% CI=16%, 24%) than that observed in similar surveys from Western countries, in which estimates have ranged between 22% and 35%,[8,9,20,21] but it was in keeping with rates in less developed countries.[19] Nonetheless, subtle methodological differences in studies across countries can influence results considerably. For instance, we assessed whether participants had "talked about mental health problems," while the US National Comorbidity Survey[21] assessed whether respondents "went for psychiatric help," potentially a less frequent event. Often, estimates of differences *between* countries overshadow large *within-country* inequities in provision of health services.

A range of factors, such as availability or pricing, influences the type of mental health professional from whom individuals can seek care. For instance, although we found that individuals with private insurance coverage were more likely to consult psychiatrists, rates in this group were still low, possibly reflecting restrictions imposed by private health plans in the use of these specialized services.[3] Individuals with public-sector coverage had higher rates of consultations with psychologists, in line with recent policies instituted by the government aimed at promoting psychological consultations. Indeed, consultations with psychologists represented the only type of mental health care provision in which no differences were found between insurance schemes. This finding provides some evidence

TABLE 4—Factors Associated With Likelihood of Consultation Among People With Mental Disorders (n=975): Santiago Mental Disorders Survey, 1996–1998

	Crude OR (95% CI)	Model 1[a] Adjusted OR (95% CI)	Model 2[b] Adjusted OR (95% CI)
Insurance group			
Public	1.00	1.00	1.00
Uninsured	1.23 (0.63, 2.40)	1.34 (0.66, 2.73)	1.57 (0.80, 3.07)
Private	2.32 (1.35, 3.98)	2.33 (1.35, 4.04)	2.72 (1.60, 4.62)
Female	1.18 (0.64, 2.18)	1.20 (0.57, 2.54)	1.30 (0.68, 2.50)
Age	1.01 (0.99, 1.02)	1.01 (0.99, 1.03)	1.00 (0.98, 1.02)
Income	1.00 (0.99, 1.00)	1.00 (0.99, 1.00)	1.00 (0.99, 1.00)
Social support	1.04 (0.98, 1.10)	1.02 (0.95, 1.08)	1.03 (0.96, 1.09)
Physical disease	1.37 (0.77, 2.44)	…	1.40 (0.76, 2.59)
Severity of psychiatric symptoms	1.03 (0.99, 1.06)	…	1.02 (0.99, 1.05)
Disability	1.26 (1.10, 1.45)	…	1.27 (1.08, 1.49)

Note. OR=odds ratio; CI=confidence interval. Values were derived from logistic regression models and were weighted with Stata survey commands.
[a]Adjusted for age, gender, income, social support, insurance group, and household size.
[b]Adjusted for age, gender, income, social support, insurance group, household size, presence of physical disease, Revised Clinical Interview Schedule total score, and presence of disability.

that initiatives targeting disadvantaged individuals might be successful in reducing inequities in provision of health care.[22]

More than 30 years ago, Tudor-Hart postulated the inverse care law: the availability of good medical care tends to vary inversely with need among the population served.[23] Although we do not know whether inequalities in mental health care increased in Chile after the country's health care reforms, our results clearly show that at present, those most in need have little choice other than to remain in the underfunded public sector, where they are least likely to receive professional help. Universal coverage might bring more equity to the health system, but reintroducing such a coverage plan would require considerable time and strong political commitment.[22] Once profit-seeking private organizations are introduced into health systems, it becomes almost impossible to revert to a system that does not include private-sector participation. It remains to be seen whether the international organizations that have vigorously promoted health system reform in the developing world will show the same commitment to introducing changes that lead to more equitable health systems for all citizens, regardless of their socioeconomic status. ∎

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Contributors

R. Araya and G. Lewis analyzed the data and wrote the final version of the article. G. Rojas and R. Fritsch collected and entered data and assisted in revising the article. R. Frank advised on data analysis and assisted in revising the article.

Human Participant Protection

The study was approved by the Comite de Etica, Facultad de Medicina, Universidad de Chile. Participants provided written informed consent to take part in the study.

References

1. World Bank. *Development Report: Investing in Health.* New York, NY: Oxford University Press Inc; 1993.

2. Stocker K, Waitzkin H, Iriart C. The exportation of managed care to Latin America. *N Engl J Med.* 1999;340:1131–1136.

3. Frank RG, Goldman HH, McGuire TG. Will parity in coverage result in better mental health care? *N Engl J Med.* 2001;345:1701–1704.

4. Sturm R. How expensive is unlimited mental health care coverage under managed care? *JAMA.* 1997;278:1533–1537.

5. Araya R, Rojas G, Fritsch R, Acuna J, Lewis G. Common mental disorders in Santiago, Chile: prevalence and socio-demographic correlates. *Br J Psychiatry.* 2001;178:228–233.

6. Lewis G, Pelosi AJ, Araya R, Dunn G. Measuring psychiatric disorder in the community: a standardised assessment for use by lay interviewers. *Psychol Med.* 1992;22:465–486.

7. *International Classification of Diseases, 10th Revision.* Geneva, Switzerland: World Health Organization; 1992.

8. Regier DA, Kaelber CT, Rae DS, et al. Limitations of diagnostic criteria and assessment instruments for mental disorders: implications for research and policy. *Arch Gen Psychiatry.* 1998;55:109–115.

9. Andrews G, Issakidis C, Carter G. Shortfall in mental health service utilisation. *Br J Psychiatry.* 2001; 179:417–425.

10. Bebbington P, Meltzer H, Brugha T, et al. Unequal access and unmet need: neurotic disorders and the use of primary care services. *Psychol Med.* 2000; 30:1359–1367.

11. Kessler R, Frank RG, Edlund M, Katz SJ, Lin E, Leaf P. Differences in the use of psychiatric outpatient services between the United States and Ontario. *N Engl J Med.* 1997;336:551–557.

12. George LK. *Health Services Validation Data: Preliminary Data.* Durham, NC: Duke University; 1985.

13. Ritter PL, Stewart AL, Kaymaz H, Sobel DS, Block DA, Lorig KR. Self-reports of health care utilization compared to provider records. *J Clin Epidemiol.* 2001;54:136–141.

14. Ministerio de Planificacion Nacional. *Encuesta de Caracterizacion Socioeconomica Nacional.* Santiago, Chile: MIDEPLAN; 1998.

15. Sapinelli C. Risk segmentation and equity in the Chilean mandatory health insurance system. *Soc Sci Med.* 2004;58:259–265.

16. Lima MS, Hotopf M, Mari JJ, Beria JU, De Bastos AB, Mann A. Psychiatric disorder and the use of benzodiazepines: an example of the inverse care law from Brazil. *Soc Psychiatry Psychiatr Epidemiol.* 1999;34: 316–322.

17. Kouzis AC, Eaton WW. Absence of social networks, social support and health services utilization. *Psychol Med.* 1998;28:1301–1310.

18. Albizu-Garcia CE, Alegria M, Freeman D, Vera M. Gender and health services use for a mental health problem. *Soc Sci Med.* 2001;53:865–878.

19. WHO World Mental Health Survey Consortium. Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *JAMA.* 2004;291: 2581–2590.

20. Alegria M, Bijl R, Lin E, Walters EE, Kessler RC. Income differences in persons seeking outpatient treatment for mental disorders. *Arch Gen Psychiatry.* 2000; 57:383–391.

21. Kessler R, Zhao S, Katz SJ, et al. Past-year use of outpatient services for psychiatric problems in the National Comorbidity Survey. *Am J Psychiatry.* 1999;156: 115–123.

22. Gwatkin RD. Reducing health inequalities in developing countries. In: Detels R, McEwen J, Beaglehole R, Tanaka H, eds. *Oxford Textbook of Public Health.* Oxford, England: Oxford University Press Inc; 2002: 1791–1809.

23. Tudor-Hart J. The inverse care law. *Lancet.* 1971; 297:405–412.