

Economic Differences Among Insured and Non-Insured Patients in a Private Mental Hospital in Greater Cairo

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Abstract

Objectives: This paper aims to study the impact of economics on mental health services. **Methods:** Retrospective study has been conducted on the computer files of all patients admitted in one of the private psychiatric hospitals in Greater Cairo between the first of January and the end of December 2001. The total number of patients is 946. 571 patients of them (60.4%) were health insured while 375 patients (39.6%) were not health - insured. **Limitations of the study:** Studying files of the patients could help if it covers 5 or 10 years, comparison of our results to other private hospital or to governmental hospital would increase our scope to the problem, and application of questionnaires to the patients measuring the quality of life and economic burden of insurance versus non insurance services would help in exploring new areas. **Results:** The insured group had the privilege of being financially supported, stayed more days in the hospital and the number of hospital admission in their last 5 years was also higher, and the differences were statistically significant between the two groups. The two groups didn't differ on diagnosis according to DSMIV as regards schizophrenic, neurotic, and or organic mental disorders, but substance abusers represented 40.9% of the insured group because the insurance company facilitates the long stay for drug-addicts and 37.1% of the non-insured group were suffering from mood disorders. **Discussion of results, followed by recommendations were proposed.**

Keywords: Health insurance, Mental patients.

Background

The importance of financial issues in shaping health care delivery for mentally ill people continues to intensify. For more than a century, sources of funding and mechanisms of payment for service have influenced mental health policy. These economic factors are key determinants of access to care, organization of health care delivery services, and the behavior of providers (Frank, 2002).

Over the last decade, both government and industry have sharpened their focus on health care expenditures. This have stimulated the development of new models of care and has fundamentally changed the relationship between patients and providers (Gottlieb, 1998).

One-third of the U.S. Population between the ages of 15 and 54 experience at least one psychiatric disorder from among anxiety and mood disorders, schizophrenia, and substance abuse or dependence disorders every year. Of these 44 million individuals, 15.7 millions suffer from anxiety disorders alone, while another 11.7 millions experience both anxiety and at least one other psychiatric disorder (Gallagher et al., 1998). Given the prevalence of anxiety disorders, the resulting economic burden is substantial, totalling \$ 42.3 billion per year in 1990. These results imply an average annual cost per sufferer of over \$ 1,500. In year 2000 the annual economic burden of anxiety disorders is over \$ 65 billion. Direct or out of pocket costs accounts for 87% of this total and comprise psychiatric and nonpsychiatric medical pharmaceutical costs.

Compared to nonsufferers, those with anxiety disorders are more than six times as likely to be hospitalized and are three to five times as likely to visit a physician, such as a cardiologist, psychiatrist or family doctor (Pinard, 1999).

Schizophrenia is the most common serious mental illness. It imposes a burden not only on the patient, but also on the carers, the health service and the society. It is certainly an expensive illness to treat, for example, the enormous costs of in-patient care more than 5% of total National Health Service (NHS) in-patient expenditure in England (Knapp, 1997). The care for people with schizophrenia is invested in a diversely constituted support network that includes hospital care [in-patient, day patient and out-patient services, depot injection clinics, secure units], community health care, social care services, non professional carers and voluntary organizations. There are costs associated with each (Haro et al., 1998). The direct costs of schizophrenia - including, hospitalization, relapse costs, drug, residential care and others is about 2.3 billion dollars per year while the indirect cost including lost productivity, degradation of quality of life and burden on family- is about 2 billion dollars per year (Suleiman et al., 1997).

From an economic perspective, the use of illegal drugs such as heroin is a problem because the personal costs borne by individual users (including financial outlays and health risks) diverge from the full costs of use imposed on society. the full cost of use exceeds the private cost, the difference between the two reflects the social cost imposed by each additional user

(Healey et al., 1998). The social costs from illicit drug use arise for a number of reasons, chaotic lifestyles and the health and morbidity risks associated with heavy drug use can cause anguish and generally reduce the quality of life of families and friends. There is also a positive association between extensive use of illicit substances and income - generating crime (Kouzis and Eaton, 2000). Despite the enormous costs, health insurance plans typically provide less coverage for mental health and substance abuse treatment than for general medical and surgical services. Equal access to these services is a sound, rational investment (Chavez, 1998).

Significantly more people with depressive symptoms or major depression reported impairment in at least eight of 10 functional domains-regarding daily function-than did subjects with no disorder (Judd et al., 1996). Depression treatment programs will depend on the balance of additional benefits and additional costs. The consistent association between depression and increased use of medical services suggests that improved depression treatment could reduce general medical expenditures, partially or fully offsetting costs of depression treatment (Simon et al., 2000).

Aim of the Work

The aim of study is to detect the economical differences between insured and non-insured patients in one of the private hospitals in Greater Cairo. The impact of the economic factor on both duration of stay in hospital and type of treatment

Materials and methods

received was another point to be considered.

A) Sample :

A retrospective Study reviewing the computer files of 946 patients representing the inpatient admissions to a private hospital in greater Cairo during the period from the first of January 2001 till the end of December, 2001.

B) Data measured.

The files were carefully studied with special regards to the socio-demographic data, the psychiatric diagnosis, types of medications received, number of ECTs, the duration of stay in hospital and the number of admissions. Patients were then classified into two groups: Patients in the first group (571) were totally covered financially by insurance in whether governmental or private companies, whereas patients in the second group (375) were not insured.

C) Statistical analysis

Data collected from computer files were statistically analysed using appropriate methods. This statistical procedure entailed two steps. The first was the demographic data of those patients which were collected and tabulated. The second was the analytic part which aimed to find the relation between different variables on one hand and the relation between insurance and different medical services provided in that hospital during the year 2001 on the other hand.

Table I: The Sociodemographic data

*Age	Insured		Non-insured	
Mean	33.2		36.5	
S.D.				
P. Value	<0.001			
Significance	H.S.			
*Sex distribution	No	%	No.	%
Male	436	76.4%	315	83.9%
Female	135	23.6%	60	16.1%
*Marital status	No.	%	No.	%
Single	301	52.8%	236	62.9%
Married	270	47.2%	139	37.1%
Total	571	100%	375	100%

Results

- Data collected from computer files were statistically analysed as follows:

- Out of 946 patients 571 patients (60.4%) were totally insured, and 375 patients (39.6%) were not insured.

*Sociodemographic data:

The mean age for patients in the insured group was 33.2 ± 11.2 years whereas in the non-insured group the mean age was 36.5 ± 11.5 (with a highly significant difference between the two groups $P < 0.001$)

Out of 571 patients in the insured group 436 patients (76.4%) were males and 135 patients (23.6%) were females, compared to 315 (83.9%) male patients and 60 (16.1%) female patients in the non-insured group.

As regards marital status, 301 patients (52.8%) in the insured group were single and 270 patients (47.2%) were married whereas in the non-insured group, 236 patients (62.9%) were single and 139 patients (37.1%) were married.

* Psychiatric diagnosis:

Table II: Psychiatric Diagnosis

	Insured		Non-insured	
	No.	%	No.	%
Schizophrenia	133	23.9%	97	25.8
Mood Disorder	146	25.6	139	37.1
Substance use Disorder	234	40.9	73	19.4
Neurotic Disorder	39	6.9	54	14.5
Organic Mental Disorder	1.9	3.3	12	3.2
P-Value	<0.01			
Significance	H.S.			

Patients in both groups were diagnosed according to DSM IV criteria. It was found that 97 patients (25.8%) in the non-insured group were diagnosed as having schizophrenia, 139 patients (37.1%) as mood disorder, 73 patients (19.4%) as substance abuse disorder, 54 patients (14.5%) as neurotic disorder and 12 patients (3.2%) as organic mental disorder. In the insured group, 133 patients (23.4%) were diagnosed as having schizophrenia, 146 patients (25.6%) mood disorder, 234 patients (40.9%) as substance use disorder, 39 patients (6.9%) as neurotic disorder and 19 patients (3.3%) organic mental disorder.

* Treatment :

Table III: Types of medications prescribed to the two groups

	Insured		Non-insured	
	No.	%	No.	%
Typical	166	29.1%	163	43.5%
Atypical	405	70.9%	212	56.5%
Total	571	100%	375	100%
P-Value	<0.01			
Significance	H.S.			

Table IV: Number of patients received ECTs

ECT		Insured		Non-insured	
		No.	%	No.	%
Number of patients	Yes	227	39.8%	131	34.9%
	No	344	60.2%	244	65.1%
	Total	571	100%	375	100%
	P-Value	>0.05			
	Significance	N.S.			
Mean number of ECTs.	Mean	5.1		4.9	
	S.D.				
	P-Value	<0.005			
	Significance	N.S.			

It was found that 212 patients (56.5%) in the non-insured group received atypical medications and 163 patients (43.5%) received typical medications (Table III). In the insured group, 405 patients (70.9%) received atypical medications and 166 patients (29.1%) received typical medications (with highly significant difference between the 2 groups). As regards ECT, (Table IV) patients (34.9%) in the non-insured group received ECTs with a mean of 4.9 ECTs and a standard deviation of ± 1.8 whereas in the insured group 227 patients (39.8%) received ECTs with a mean of 5.1 ECTs and a standard deviation of ± 3.4 . and there was no significant difference between the 2 groups.

* Hospitalization:

Table V: Duration of hospital stay and number of admissions of the two groups

Hospital Stay	Insured	Non-insured
Mean	32.5	17.1
S.D.		
P-Value	<0.01	
Significance	H.S.	
Number of admission		
Mean	4.1	1.7
S.D.		
P-Value	<0.01	
Significance	H.S.	

The mean number of hospital admissions in the non-insured group was 1.7 with standard deviation of ± 1.4 whereas for the insured group was 4.1 with standard deviation of ± 1.6 , and there was highly significant difference between the two groups $P < 0.01$.

The mean duration of hospital stay in the non-insured patients was 17.1 days with a standard deviation of ± 16.1 and in the insured group 32.5 days with a standard deviation of ± 25.9 with a highly significant difference between the two groups $P < 0.01$.

Discussion

In recent years, we have become accustomed to seeing figures that represent cost estimation of the economics of certain disorders, social interventions or medications, both in the scientific and lay press (Gallagher and Alpers 1998). The relation between economics and mental health has been on the top of the agenda of the World Bank as well as many western countries and health Care authorities. This results from the fact that mental health affects the economic resources of the nations and at the same time the quality of mental health services is influenced by the economic status of nations. There is a need to design and conduct cost-effectiveness analysis that will inform policy and protocol (Sadek, 2001).

Mental and addictive disorders are among the most prevalent and most often neglected health problems. Health insurance plans provide less coverage for mental health and substance abuse treatment than what is expected which might affect the course and outcome of these disorders (Chaves, 1998).

* Sociodemographic characteristics:

The mean age of patients in the non-insured group (36.5) was higher than those in the insured group (33.2) and there was a highly significant difference between the two groups. This might reflect the earlier access to mental health services including hospitalization for the insured patients which might affect not only the course of the illness, but also the outcome. The economic burden of the mental illness treatment might therefore represent a barrier against early intervention of patients with psychiatric illnesses. Females represent a higher

percentage of the total number of patients in the insured group (23.6%) than in the non-insured group (16.1%). This might highlight the role of insurance in facilitating treatment and admission of females in the Egyptian culture. However, this might be due to other factors rather than insurance such as socio-economic level and education which are expected to be higher in the insured group. Married patients were more in the insured group (47.2%) than in the other group (37.1%). This might be due to the costly admission and treatment of mental illness which may aggravate the financial burden of marriage, both might represent a barrier against treatment which was more in the non-insured group.

* **Psychiatric diagnosis:**

Mood disorders represent a higher percentage in the non-insured group (37.1%) than in the insured group (25.6%) and the same apply for neurotic disorders. This difference might be due to the high economic burden of these disorders including direct and indirect costs together with intact insight in many cases might represent good motives for asking psychiatric help and admission especially in the non-supported patients.

It is very important to consider the urgent admission for Mood disorder patients to the hospital, either for the depressed with high risk of suicide or for the bipolar with risk of excitement or aggressive behavior. This pushes the family even with non insurance support to fasten the hospital admissions to control the situation.

Judd, et. al. (1996), found that more subjects with mood disorders reported major financial losses, bed days and high levels of financial strains. Similarly, Greenberg and Sisitsky (2000), found that the annual economic burden of anxiety disorders is over 65 billion dollars and more than half the costs of anxiety are attributed to medical expenditures arising outside the psychiatric services sector. In the case of depression, "hidden" workplace costs represents the largest share, whereas the vast majority of the costs of anxiety are direct in nature.

A large proportion (40.9%) of the insured patients suffered from substance abuse disorder, compared to high financial costs of treating such disorders which represent a barrier for admission in the non-insured group, because substance abusers need longer hospitalization. Another factor which is to be considered is that more patients in the insured group are in regular work. This work might represent a stress on those patients in one hand and might facilitate the abuse in special jobs- by the availability of the substances. Both factors might contribute to the higher substance abuse disorders in the insured group. Chavez (1998), noted that (73%) of current drug users are employed which is consistent with our results. Also Schoenbaum, et al., (1995), found that among substance abuse patients, the average costs were more than twice as high as average costs for mental health patients. The higher costs for substance abuse treatment reflected

greater rates of use of both in-patient and intensive outpatient treatment.

* **Treatment :-**

In our study, (70.9%) of patients in the insured group received atypical medication in comparison to (56.5%) in the non-insured group and there was a highly significant difference between the two groups. This gap in prescribing and receiving atypical medications might be due to the higher price of such medications which couldn't be afforded by many of the non-insured patients. Pinard (1999), found that the new atypical antipsychotics is proposed to be more expensive to the patient but when considering the side effect profile, the compliance and quality of life, it seems cheaper. So despite the advantages of atypical medications many of the non-insured patients don't receive such drugs because of financial cost. As regards ECT, more patients in the insured group received ECT than in the other group, and the mean number of ECT, was higher than in the non-insured group. Although there was no statistically significant difference between the two groups yet ECT is still considered as an important type of therapy for so many patients. For some patients the cost of ECT might represent a burden which might hinder completing the course of ECT, where health insurance have a role in resolving such a conflict.

* **Hospitalization :**

Both, the mean of days of hospital stay and the mean number of hospital admissions were greater in the insured group than in the other group and there was significant difference between the two groups. This might reflect the costly inpatient treatment which could be afforded more by insured patients. The financial costs of inpatient treatment might represent a barrier against completing the therapeutic plan for some of the patients especially if not insured. The National Advisory Mental Health Council, (1993), found that treating mental illness is costly including medication, outpatient visits and most important inpatient treatment.

The cost of treating mental illness are not much different from those of treating common medical illness, such as heart disease and diabetes. Rabinowitz, et al., (1998), found that during the course of psychotic illness, many people lack any type of health insurance, and this is associated with a decreased likelihood of obtaining care before their first hospital admission and also have an impact on the outcome of such patients. Rabinowitz, et al., (2000) in their study about change in insurance coverage and extent of care to patients, found that over the following 24 Months of first hospitalization, patients with private insurance had the least inpatient care and those with no insurance had the highest outpatient treatment and those with Medicaid-Medicare had the most days of care. These results are inconsistent with those in our study and this may be due to cultural differences in the concept of insurance coverage. On the other hand, this difference might be due to the small number of patients in our study from one private hospital which might not reflect the

actual situation in Egypt where the inclusion of governmental and private hospitals might change our results.

To conclude, our retrospective study showed that insured patients had the privilege of being financially supported which enable them of receiving a better quality of treatment whether atypical medications or ECTs, to stay more days in hospital according to what needed and ask for psychiatric admission when needed. These advantages are not available for the non-insured patient who suffer the costly inpatient treatment. This may affect not only the course, outcome but also the suffering of caregivers of non-insured patients.

REFERENCES

- Chavez, N., (1998). new study examines expansion of mental health/ substance abuse insurance benefits. The national clearing house for alcohol and drug information. SAMHSA, Rockville, MD.
- Fank, R., (2000). The creation of Medicare and Medicaid: the emergence of insurance and markets for mental health services. *Psychiatric Serv.*, 51: 465-468 April.
- Gallagher, T., and Alpers, A. (1998). Health care financing administration's new regulations for financial incentives in Medicaid and Medicare Managed care. *Am. J. med.*, 105: 09.
- Gottlielo, G., (1998). Managed behavioral health care standards, guidelines, and competencies for older adults with mental illness. Center for mental health services, SAMSHA, Rockville, MD.
- Greenberg, P., and Sisitsky, T. (2000). The economic burden of anxiety disorders in the 1990s, *J. Clin. Psychiatry*, 60 (7): 427-435.
- Haro, J., Salvador, L., Cabases, J., and Madoz, V., (1998). Utilization of mental health services and costs of patients with schizophrenia in three areas of Spain. *Br. J. of Psychiat.*, 173: 334-340.
- Healey, A., Knapp, M., Astin, J., Gossop, M., Marsden, M., Stewart, D., Lehmann P., and Godfrey, C., (1998). Economic burden of drug dependency. *Br. J. of Psychiat* 173: 160-165.
- Judd, L. Paulus, M., Wells, K., and Rapaport, M. (1996). Socioeconomic burden of subsyndromal depressive symptoms and major depression in a sample of the general population. *Am. J. of psychiat.*, 153: 1411-1417.
- Knapp, (1997). Costs of schizophrenia. *Br. J. of psychiat.*, 171; 509-518.
- Kouzis, A., and Aton, W., (2000). Psychopathology and the initiation of disability payments. *Psychiatric serv.*, 51: 905-913, July.
- National Advisory Mental Health Council 91993). Helath care reform for Americans with severe mental illness: Report of the National Advisory Mental Health Council. *Am. J. of Psychiat.*, 150: 1447-1465.
- Pinard, G., (1999). The economics of mental illness. *Psychiatry*; June 1,; 472-482.
- Rabinowitz, J., Bromet, E. Horank, K. and Roson, B., (2001). Changes in insurance coverage and extent of care during the two years after first hospitalization for a psychotic disorder. *Psychiatric Serv.*, 52: 87-91, January.
- Rabinowitz, J., Bromet, E., Lavelle, J., Severance, K., Zariello, S., and Roson, B., (1998). Relationship between type of insurance and care during the early course of psychosis. *Am. J. of Psychiat.*, 155: 1392-1397, October.
- Sadek, A. (2001). Mental health economics. Ein Shams Univ., personal communication.
- Schoenbawm, M., Zhang, W., and Strum, R. (1998). Costs and utilization of substance abuse care in a private insured population under managed care. *Psychiatric Serv.*, 49: 1573-1578, December.
- Simon, G., Manning, W., Katzelnick, D., Pearson, S., Henk, H., and Helstad, C., (2001). Cost-effectiveness of systematic depression treatment for high utilizers of general medical care. *Arch. Gen. Psychiat.*, 58: 181-187.
- Suleiman, T., Ohaeri, J., Lawal, R., Haruna, A., and Orija, O., (1997). Financial costs of treating out-patients with schizophrenia in Nigeria. *Br. J. of Psychiat.*, 171: 364-368.

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الملخص العربي:

الفروق الاقتصادية بين المرضى المؤمن وغير المؤمن عليهم صحيا في مستشفى عقلي خاص بالقاهرة الكبرى

النتائج: أمام المرضى المؤمن عليهم صحيا مدد أطول واستطاعوا الدخول لمرات أكثر تعددا خلال السنوات الخمس السابقة للدراسة وذلك بفارق إحصائي دال . وتتوزع التشخيصات المرضية حسب التقويم الأمريكي الرابع وشكل المدمنون ٤٠,٩% من مجموعة المؤمن عليهم صحيا والمكتتبون ٣٧,١% و تمت مناقشة النتائج ووضع التوصيات المناسبة .

الأهداف: دراسة تأثير الاقتصاديات علي خدمات الصحة النفسية. طرق البحث: دراسة استعراضية لسابق ما جمع من معلومات بواسطة الحاسوب من واقع الملفات الطبية لجميع المرضى الذين أدخلوا واحدة من المصحات النفسية الخاصة في القاهرة الكبرى ما بين يناير إلى سبتمبر عام ٢٠٠١ م والذين بلغ عددهم ٩٤٦,٥٧١ مريضا منهم ٦٠,٤% مؤمنا عليهم صحيا والباقي لم يتمتعوا بذلك .