

Report to Congress

**Prospective Payment System for Inpatient Services
in Psychiatric Hospitals and Exempt Units**

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2002

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EXECUTIVE SUMMARY

Historically, Medicare reimbursed health care facilities on the basis of costs. Cost based reimbursement methods have long been criticized because they are often complex, provide few incentives for furnishing care efficiently, and result in unpredictable payments. Because of the rapid rate of growth in outlays for inpatient hospital care, Congress first directed implementation of a prospective payment system (PPS) for acute care hospitals in 1983 with the enactment of Pub.L. 98-21. The key feature of a technically sound PPS is a prospectively determined fixed payment rate for a specific bundle of services for clinically similar patients requiring resources objectively measured. This reduces the incentive to add unnecessary services to a particular episode of care. Providers able to keep costs below their payment rate can retain the difference, encouraging efficiency. A PPS also increases predictability in health care spending, through recognition of historical base period costs and specified updates applied to those costs to determine the payment rate for each unit of service.

Although Pub.L. 98-21 required a study to determine whether and how hospitals excluded from the PPS could be paid prospectively, policymakers looked to PPSs for other types of health care providers. The Balanced Budget Act of 1997 (BBA) (Pub.L. 105-33)

greatly accelerated these efforts, requiring the Centers for Medicare and Medicaid Services (CMS) to replace cost based methods of reimbursement with new PPSs for many types of providers operating in the traditional fee-for-service program. The BBA established a demanding schedule for implementing PPSs for skilled nursing facilities, hospital outpatient departments, home health agencies, and rehabilitation facilities. A PPS for skilled nursing facilities was implemented effective July 1, 1998. Payments for hospital outpatient, home health, and inpatient rehabilitation services were made prospective beginning August 1, 2000, October 1, 2000, and January 1, 2002, respectively. Despite progress in extending PPSs from acute to post acute settings, certain types of hospitals and distinct part units of hospitals initially exempt from prospective payment have continued to be paid on a cost basis. PPS-exempt facilities presently include long-term care, children's, cancer, psychiatric hospitals, and psychiatric units in acute care hospitals. These providers are paid in accordance with a method first established by the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA). Under TEFRA each of these facilities is paid its actual reasonable costs subject to a target rate of increase limit. This target amount is based on the provider's historical base year costs per discharge updated to the payment year. Providers incurring costs below their target limits are eligible for bonus payments. The BBA also required that

Medicare develop a legislative proposal for long term care hospitals. Although the BBA did not mention a PPS for psychiatric facilities, the Medicare, Medicaid, and SCHIP, Balanced Budget Refinement Act of 1999 (BBRA)(Pub.L. 106-113), directed the development of a per diem PPS for inpatient psychiatric services furnished in hospitals and exempt units.

Section 124 of the BBRA (Appendix A) contains the complete statutory charge. The major requirement is the system's inclusion of an "adequate patient classification system that reflects the differences in patient resource use and costs among such hospitals..." An adequate classification system would result in the appropriate targeting of greater prospective payments to providers treating more costly resource intensive patients using statistically objective criteria. The law also required that the Secretary submit a report to Congress describing the system, and directed implementation of the inpatient psychiatric PPS effective for cost reporting periods beginning on or after October 1, 2002.

The CMS's implementation of the Medicare hospital PPS in 1983 was based on a solid foundation of research that spanned more than ten years. The relative absence since 1983 of research on those factors that should be considered in connection with an inpatient psychiatric PPS requires new efforts and new approaches given the BBRA's directives. In this report to the Congress we provide an overview of prior research to develop an

appropriate patient classification system for psychiatric inpatients and present some recent utilization trends in the delivery of inpatient psychiatric care. We describe two research efforts which CMS has undertaken to meet the BBRA's requirements to develop a case mix adjusted psychiatric PPS. Unfortunately, due to the complex nature of the research, neither project will be completed in sufficient time to implement a new payment system by October 1, 2002. We also report on a model presented by the American Psychiatric Association, and initially developed by the Health Economics and Outcomes Research Institute of the Greater New York Hospital Association. CMS's preliminary analysis suggests that a combination of currently available facility and patient specific variables can be reasonable predictors of cost variability among inpatient psychiatric hospitals and exempt units. Although further work based on edited and updated data is required, we believe an inpatient psychiatric PPS using such variables would comply with the BBRA's requirement to develop a per diem system that incorporates an "adequate" patient classification system. However, the need for further analysis and careful assessment of potential payment impacts, combined with the long lead times in connection with the rulemaking process, preclude implementation of an inpatient psychiatric PPS by October 1, 2002.

BACKGROUND AND HISTORICAL PERSPECTIVE

Prior to 1983 Medicare reimbursed hospitals on a reasonable cost basis, usually with some upper limits on payment levels. The enactment of Pub.L. 98-21, the Social Security Amendments of 1983, marked a significant departure from Medicare's cost based reimbursement system. Pub.L. 98-21 directed the implementation of a prospective payment system (PPS), under which hospitals would be paid a fixed payment rate per inpatient stay. Under the Medicare PPS, the payment for each discharge was based on the patient's diagnosis related group (DRG). DRGs are a method of classifying patients into one of approximately 500 clinically coherent groups, each relatively similar in costs. Developed from a national sample of acute care hospital discharges, DRGs reflect the patient's principal diagnosis, comorbid conditions and complications, age, sex, treatment procedures, and discharge status. Although the definitions of the DRGs have undergone changes since 1983, they continue to define "case mix" under Medicare's PPS for acute care hospitals. Of the 468 original DRGs, 15 had a principal diagnosis involving a psychiatric or substance abuse disorder.¹

Because DRGs were developed from acute care hospital data, psychiatric hospitals expressed their concerns about the fairness and accuracy of applying a DRG-based PPS to

psychiatric discharges with their usually longer lengths of stay. The industry pointed out that inpatient psychiatric care is dispersed among beds in general short stay hospitals (scatter beds), specialized facilities, and psychiatric units, with wide differences in the manner and complexity of care. Section 601(e) of Pub.L. 98-21 exempted psychiatric hospitals and units (“distinct part” units) from the Medicare PPS.² These facilities were to be paid on a reasonable cost basis, subject to a cost per discharge limit established under TEFRA. TEFRA established a ceiling on the rate of increase in hospital costs per discharge, developed from each provider’s historical costs, referred to as a target rate. TEFRA also provided bonus or incentive payments for facilities whose costs fell below the target rate. These target rates generally were updated annually using a legislated inflation factor. However, BBA limited the target rate to an annual cap, and reduced the amount of incentive payments psychiatric facilities could receive. Psychiatric hospitals are now paid the lowest of their own costs, their individual target rate, or the national cap.

As part of Pub.L. 98-21, Congress requested a report on the feasibility of reimbursing hospitals and specialty units exempted from the PPS on a prospective basis.³ In response to that request, the National Institute of Mental Health and the CMS funded a number of studies. The report (HCFA, 1987) summarized the results of research which

assessed the accuracy of applying DRGs and other diagnosis based classification systems to psychiatric discharges in excluded hospitals. The CMS's report pointed out that as of 1987 the 15 psychiatric DRGs had been examined using data from many sources, and generally accounted for or "explained" less than 10 percent of the variation in resource use based on length of stay or cost per admission.⁴ Modifications to the DRGs, and the use of alternative groups based on psychiatric diagnosis, yielded only marginal improvements in variation explained, usually totaling less than 15 percent (Taube, Lee, and Forthofer, 1984; English, et al., 1986; Schumacher, et al., 1986; Mitchell, et al., 1987; Horgan and Jencks, 1987). By comparison, DRGs account for 30 to 50 percent of the variation in length of stay for non-psychiatric cases (Eselius, 2000). The CMS concluded that, as of 1987, efforts to improve the psychiatric DRGs as a measure of resource use for purposes of paying excluded hospitals did not appear promising.

In May 1991 Project HOPE prepared a report for the Prospective Payment Assessment Commission (PROPAC),⁵ which evaluated patient classification systems for PPS-excluded hospitals and units and other providers not under a PPS such as skilled nursing facilities and home health agencies. With respect to inpatient psychiatric hospitals and units, that report examined six patient classification systems. Those systems were

developed using a methodology similar to that used to construct the DRGs, subdividing diagnoses into smaller clinical groupings by introducing additional patient variables, usually available from the discharge abstract. All of the alternative psychiatric classification groups surpassed the psychiatric DRGs in their ability to reduce variation in length of stay. Three were only slightly better than the psychiatric DRGs (less than a 5 percent improvement). Three others yielded a reduction in variance 9 to 30 percent higher than the reduction in variance found for the psychiatric DRGs (which ranged from 3.2 percent to 15 percent).

In its October 1992 report to the Congress, PROPAC concluded:

The key component of any prospective payment system is a reliable and useful patient classification system. The 15 original psychiatric DRGs have not sufficiently explained the cost and utilization variations occurring in inpatient psychiatric care for Medicare beneficiaries. Despite several attempts to classify psychiatric conditions, a meaningful case mix classification system for psychiatric care has not been identified. Unless a valid patient classification system is developed, a prospectively-based payment system cannot be successfully implemented for PPS-excluded psychiatric facilities.⁶

In 1999 MEDPAC updated its summary of the state of case mix classification research with respect to psychiatric patients. While acknowledging the use of additional patient characteristics had marginally improved diagnosis based classification systems, research as of 1999 also highlighted the difficulty of predicting resource use between acute care and chronic care patients. MEDPAC stated:

Since the Congress implemented TEFRA, researchers have explored the potential of several classification systems for psychiatric patients. Work in that area has reaffirmed the inadequacy of DRGs alone to account for resource variation across psychiatric patients and has resulted in more comprehensive diagnosis-based designs that incorporate additional patient characteristics...

While designs that predict resource use during inpatient stays have potential for acute care patients, outlier mechanisms or systems that measure per diem resources are necessary to classify patients with extremely long lengths of stay. Indeed, resource use and practice patterns vary substantially between the facilities that treat predominately one or the other of these patient types... a psychiatric case-mix classification system may be possible; however, a substantial amount of work remains.⁷

Most of the above cited psychiatric case mix classification research has largely focused on efforts to reduce variation in per discharge measures of resource consumption, such as length of stay or costs per admission. After exempting psychiatric facilities from the Medicare hospital PPS in 1983, Congress in 1999 mandated the implementation of a PPS for inpatient psychiatric hospitals and units for cost reporting periods beginning on or after October 1, 2002. Section 124 of the Medicare, Medicaid, and SCHIP BBRA, requires the development of a per diem PPS, one that includes a patient classification system that reflects differences in patient resource use and costs. These requirements have compelled the need for research to produce a case mix measure appropriate for use in a per diem inpatient psychiatric PPS. In the sections that follow we describe two research approaches which CMS has undertaken in order to develop that measure, one based on an assessment

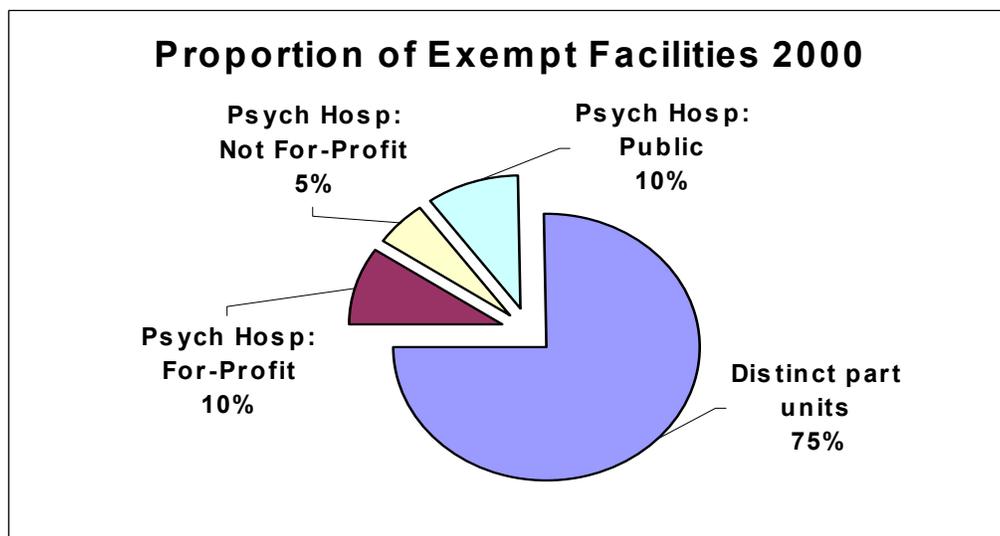
instrument approach, and one which identifies patient characteristics and modes of practice believed to account for per diem differences in costs. We also briefly describe an alternative approach that CMS has investigated. But first we present some recent trends in the utilization of inpatient psychiatric services.

TRENDS IN INPATIENT PSYCHIATRIC SERVICES

Volume and Distribution of Claims

Inpatient psychiatric services are furnished in specialized hospitals, psychiatric distinct part or exempt units located in hospitals, and beds located in acute care hospitals not separately certified as an exempt unit. Providers may be proprietary, non-proprietary, or governmental. Unless otherwise specified, the tables in this section are derived from calendar year 2000 Medicare records. In calendar year 2000 there were 645,146 Medicare discharges reflecting psychiatric and substance abuse disorders.⁸ These claims reflect a total of 422,131 individuals. The 645,146 discharges represent all Medicare patients who received hospital inpatient psychiatric care including acute care PPS hospitals and excluded hospitals and units. Excluding discharges from acute care PPS hospitals results in 432,881 discharges (approximately 67 percent of all discharges) for psychiatric hospitals and distinct part units, representing psychiatric services to 300,302 individual patients.

Overall there were 1,952 psychiatric facilities, consisting of 494 psychiatric hospitals and 1,458 distinct part units of general hospitals. The 1,952 exempt psychiatric providers are distributed among proprietary, non-proprietary, and public governmental facilities as follows:



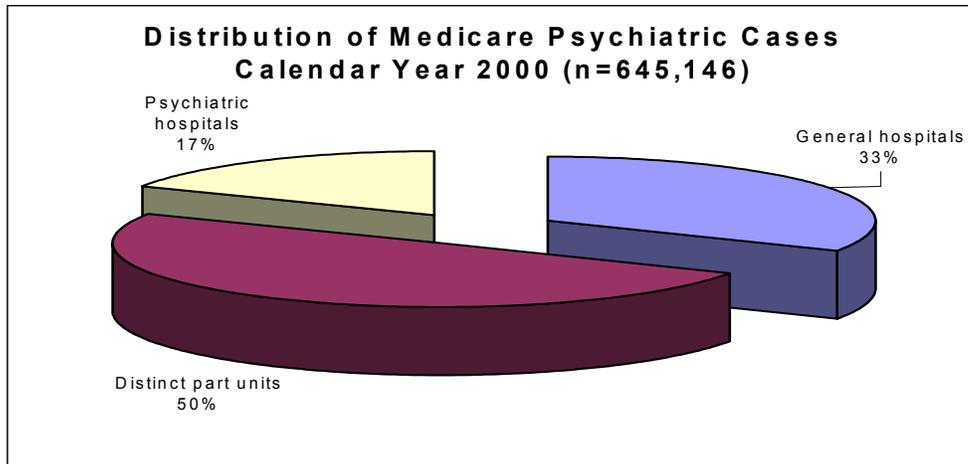
Both psychiatric hospitals and distinct part units are currently exempted from the diagnosis related group (DRG) based hospital inpatient PPS. The tables below show the distribution of these 1,952 exempt psychiatric hospitals and units among the ten CMS regions and fifty states.

Psychiatric Exempt Hospitals and Units by Region

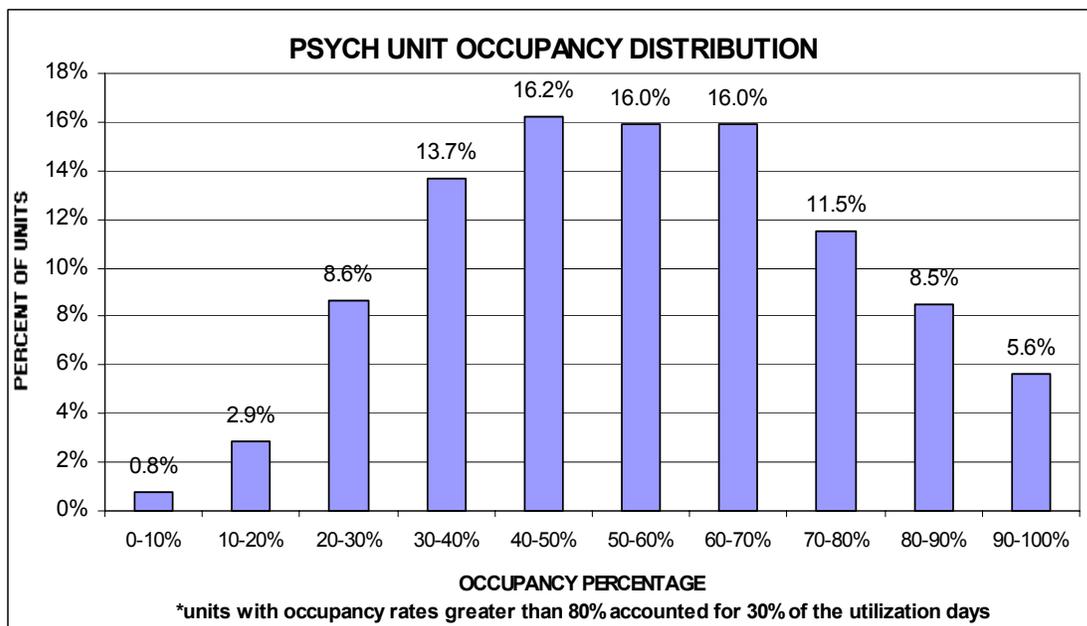
<u>CMS Region</u>	<u>PPS Exempt Psych Hospitals Number</u>	<u>PPS Exempt Psych Units Number</u>
	<u>% of total</u>	<u>% of total</u>
I Boston	36	91
	7%	6%
II New York	51	145
	10%	10%
III Philadelphia	56	152
	11%	10%
IV Atlanta	95	256
	19%	18%
V Chicago	84	309
	17%	21%
VI Dallas	73	202
	15%	14%
VII Kansas City	24	108
	5%	7%
VIII Denver	12	43
	2%	3%
IX San Francisco	48	117
	10%	8%
X Seattle	15	35
	3%	2%
Total	494	1458
	100%	100%

Psychiatric Exempt Hospitals and Units by Region and State					
CMS Region			CMS Region		
State	PPS Exempt Psych Hospitals Number	PPS Exempt Psych Units Number	State	PPS Exempt Psych Hospitals Number	PPS Exempt Psych Units Number
<u>I Boston</u>			<u>VI Dallas</u>		
Connecticut	9	24	Arkansas	7	31
Maine	4	6	Louisiana	15	67
Massachusetts	17	41	New Mexico	4	8
New Hampshire	3	12	Oklahoma	9	27
Rhode Island	1	5	Texas	38	69
Vermont	2	3	<u>VII Kansas City</u>		
<u>II New York</u>			Iowa	4	25
New Jersey	15	38	Kansas	6	29
New York	32	106	Missouri	10	46
Puerto Rico	4	1	Nebraska	4	8
<u>III Philadelphia</u>			<u>VIII Denver</u>		
Delaware	3	3	Colorado	5	16
D.C.	2	5	Montana	0	3
Maryland	12	0	North Dakota	2	7
Pennsylvania	22	101	South Dakota	1	4
Virginia	13	33	Utah	2	9
West Virginia	4	10	Wyoming	2	4
<u>IV Atlanta</u>			<u>IX San Francisco</u>		
Alabama	9	24	Arizona	5	14
Florida	23	54	California	37	96
Georgia	18	22	Hawaii	1	2
Kentucky	11	20	Nevada	5	5
Mississippi	3	44	<u>X Seattle</u>		
North Carolina	13	40	Alaska	2	1
South Carolina	7	16	Idaho	4	5
Tennessee	11	36	Oregon	4	13
<u>V Chicago</u>			Washington	5	16
Illinois	16	74			
Indiana	23	39			
Michigan	11	60			
Minnesota	7	24			
Ohio	15	85			
Wisconsin	12	27			

Of the 645,146 discharges, about 50 percent were from exempt units and 17 percent were from psychiatric hospitals. The balance of 33 percent were treated in general hospital beds subject to the PPS.

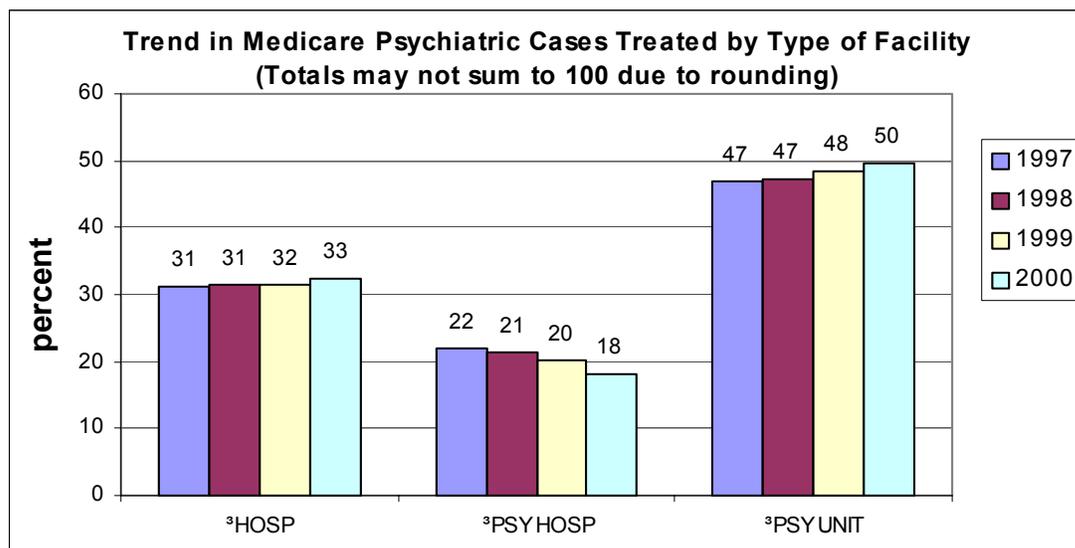


99 percent of the general hospitals that have an exempt psychiatric unit also provided



psychiatric care outside of those units but within the hospital. This finding is surprising, given that 74 percent of exempt psychiatric units had an occupancy rate of 70 percent or less.

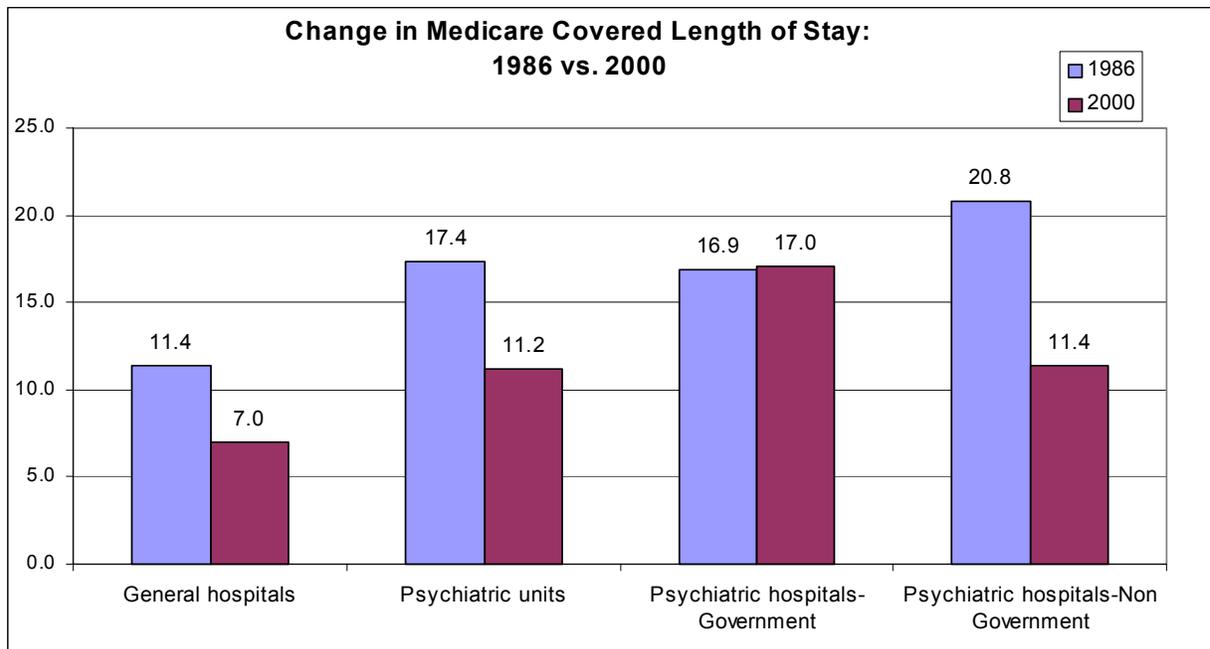
Since 1997, the proportion of Medicare inpatient psychiatric cases treated in non-exempt beds in general acute care hospitals and in exempt units has increased slightly to 33 percent and 50 percent, respectively. The share of cases treated in psychiatric hospitals has decreased to about 18 percent.



Utilization

With the exception of governmental hospitals, the average Medicare covered length of stay (LOS) among psychiatric facilities continues to decline. The observed decrease since

1986 in psychiatric units (35.6 percent) approximates the decline in general acute care hospitals (38.6 percent). However, the decline in LOS in non-governmental hospitals has been greater, about 45.2 percent.

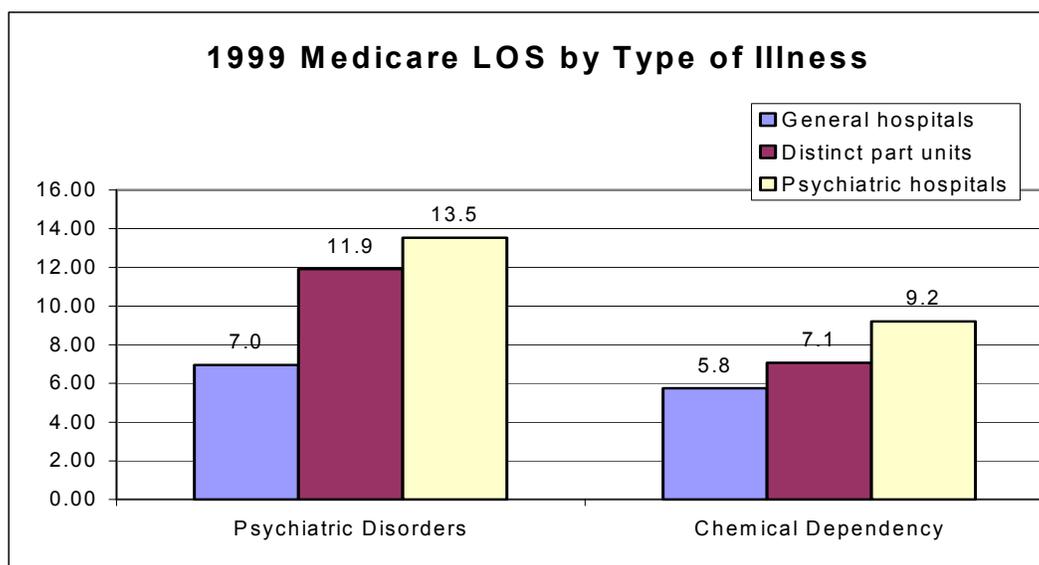


Much of this decrease is due to new drug therapies, the increasing prevalence of group therapy, the impact of managed care, and general changes in treatment practices. However, Medicare LOS in governmental psychiatric hospitals, where patients are generally chronically ill, has not declined. The concentration of seriously ill psychiatric patients in governmental hospitals is supported by prior CMS analysis of 1997 Medicare discharges. Governmental psychiatric hospitals had the highest proportion of patients with serious and

persistent disorders such as schizophrenia, and the lowest share of patients with depression and chemical dependency diagnoses. Shortening the LOS for such chronically ill patients without curtailing necessary services clearly is more difficult.

	General Hospitals	Psychiatric Hospitals			Distinct Part Units		
		For-Profit	Non-Profit	Public	For-Profit	Non-Profit	Public
Psychiatric Diagnoses							
Schizophrenia	20%	22%	24%	48%	22%	24%	27%
All Other Psychiatric Dis.	16%	13%	12%	14%	12%	13%	14%
Bipolar dis.	7%	11%	11%	11%	10%	10%	10%
Depression	15%	32%	28%	11%	34%	28%	24%
Organic Dis. & Retard.	16%	7%	13%	8%	14%	13%	15%
	74%	84%	88%	91%	92%	89%	90%
Alcohol/drug abuse	26%	16%	12%	9%	8%	11%	10%
Total	100%	100%	100%	100%	100%	100%	100%

Not surprisingly, cases with a principal psychiatric diagnosis have longer stays than discharges with a chemical dependency/substance abuse diagnosis.



Psychiatric DRGs Among Providers

The original DRGs developed in 1983 and incorporated into the acute care hospital PPS contained 15 categories reflecting a psychiatric/substance abuse principal diagnosis. The 10 most prevalent psychiatric DRGs among providers furnishing inpatient psychiatric care, based on the number of discharges in each category, are shown below.

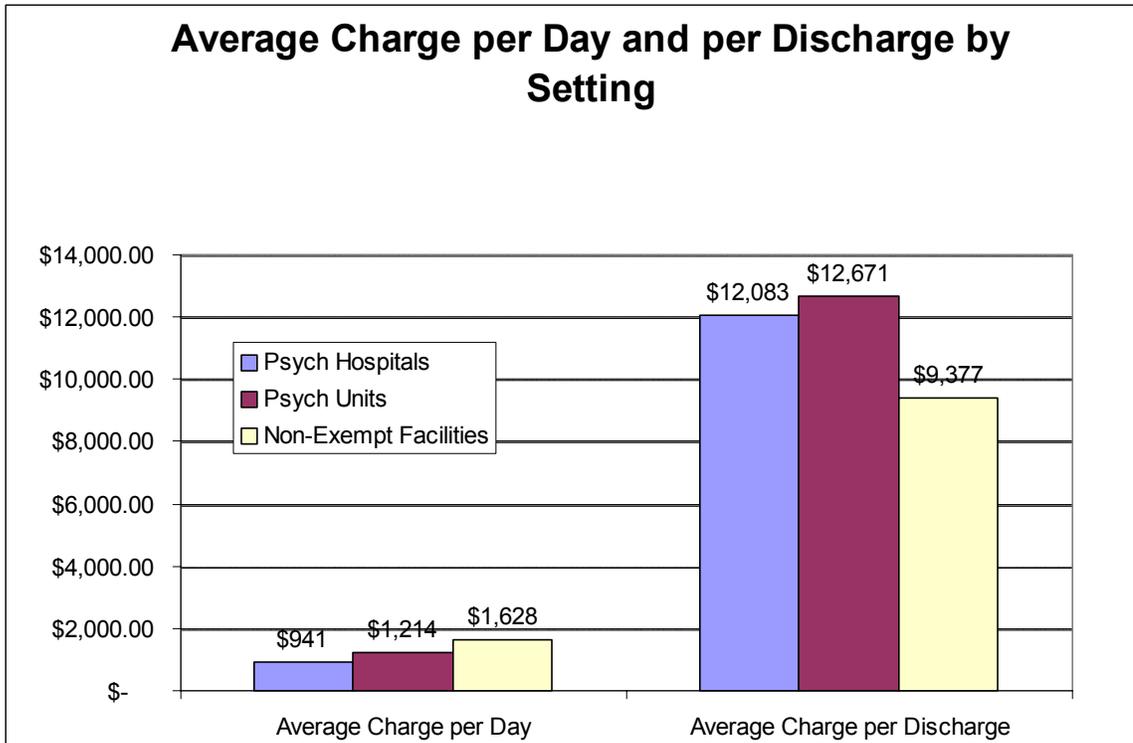
<u>DRG</u>	<u>Psych Hospitals</u>	<u>Psych Units</u>	<u>Non-Exempt Facilities</u>
Number of Discharges	112,016	320,865	212,265
Psychoses (430)	74%	72%	27%
Organic Disturb/Mental Retardation (429)	6%	11%	12%
Depressive Neurosis (426)	4%	4%	2%
Degenerative Nervous Disorders (12)	1%	5%	25%
Alcohol/Drug Depend without Complications/Comorbidities (435)	9%	2%	7%
Alcohol/Drug Depend with Complications/Comorbidities (434)	1%	1%	10%
Acute Adjustment Rxn/Psychosocial Dysfunction (425)	1%	1%	7%
Neurosis without Depression (427)	2%	1%	1%
Personality Disorders and Impulse Control (428)	1%	1%	0%
Alcohol/Drug dependence combined with Rehabilitation & Detox (437)	0%	1%	4%

Although the average charge for each psychiatric discharge varied because of differences in the average LOS associated with each DRG, charges per diem were

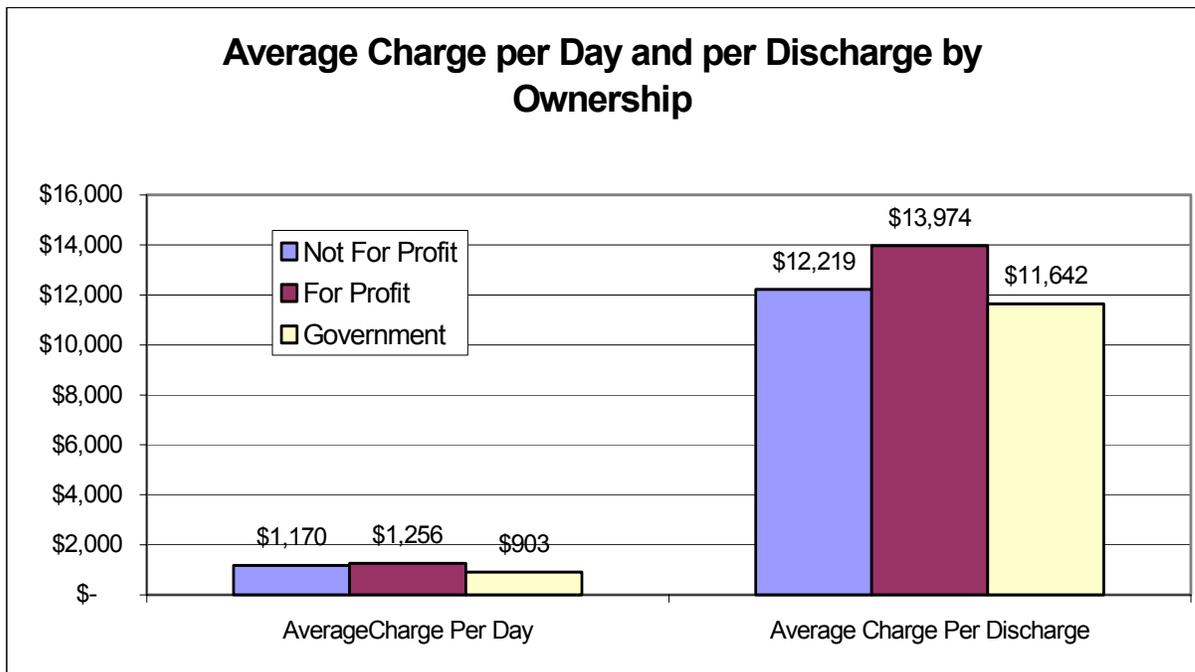
surprisingly similar across the 10 categories. There appeared to be little relationship between per diem charges and the particular psychiatric DRG.

Variation in Average Charge per Day and Average Charge per Discharge by DRG			
<u>DRG Code</u>	<u>Number of Discharges</u>	<u>Mean Charges Per Day</u>	<u>Mean Charge Per Discharge</u>
Psychoses (430)	310,464	\$1,143	\$12,890
Organic Disturbance (429)	41,543	\$1,135	\$13,885
Depressive Neurosis(426)	16,323	\$1,172	\$8,858
Degenerative Nervous d/o (12)	17,475	\$1,160	\$13,922
Alc/Drug Depend w/o cc (435)	15,254	\$1,056	\$8,401
Alc/Drug Depend w/cc (434)	6,291	\$1,226	\$8,778
Acute Adjust Rxn (425)	5,252	\$1,244	\$10,090
Neurosis (427)	5,878	\$1,102	\$7,724
Personality d/o (428)	3,106	\$1,094	\$10,244
Alc/drug Depend Comb Rehab & Detox (437)	1,971	\$1,135	\$9,856

However, among psychiatric hospitals, exempt units, and facilities with non-exempt beds, there were notable differences in average charges per diem and per discharge as shown below.



DRG diagnosis does not appear to be the cause of the variability in charges within each treatment setting. There are differences in average charges per day and per discharge among inpatient psychiatric units and psychiatric hospitals by type of ownership as shown below.



The differences in average charges per discharge among types of facilities appear to be a result of the variation in length of stay.

AN APPROACH BASED ON PATIENT CHARACTERISTICS

The principal goal of case mix measurement is to identify patient characteristics associated with resource use. There are several reasons why DRGs alone and other patient classification systems based on diagnosis alone may be limited in their ability to explain the wide variation in resource use among patients in exempt psychiatric hospitals and units.

Diagnosis in psychiatry is complex, and criteria for diagnosis and treatment are less well defined than in general medicine and surgery. The diagnosis may not fully capture the reasons for hospitalization. For example, a patient with a chronic disorder, such as schizophrenia, may be admitted for a variety of acute problems (suicide attempt, catatonic withdrawal, psychotic episode) that require very different treatments (Goldman et al., 1984.)

Treatment patterns are more variable in psychiatry, with multiple clinically accepted methods of care. Second, the original DRGs were based on diagnoses in the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)(Public Health Service and HCFA, 1980), which in turn were based on the Diagnostic and Statistical Manual of Mental Disorders, Second Edition (DSM-II). The newer systems of diagnosis, such as DSM-III-R (American Psychiatric Association, 1987) and DSM IV, allow for a

broader and better description of patients through additional behavioral dimensions or “axes”, but these are not used consistently. Thirdly, the DRGs were based solely on the limited patient data available in the discharge record known as the Uniform Hospital Discharge Data Set (Fries, et al., 1993).

In addition, resource use and practice patterns vary substantially between acute care and chronic care patients, and between the facilities that treat predominately one or another type of patient. For example, public psychiatric hospitals tend to treat the chronically ill, with substantially longer lengths of stay compared to psychiatric inpatients in general and private hospitals. Given all of these factors, the demonstrated tenuous relationship between psychiatric diagnosis and resource use is not surprising.

Because it was difficult to predict differences in resource use among psychiatric patients in exempt facilities using psychiatric DRGs, the Veterans Administration (VA) sponsored a study which examined an alternative classification scheme (Ashcraft, et al., 1989). That study used twelve major diagnostic groups consistent with the classifications contained in the DSM-III-R. Those twelve groups were subdivided to yield 74 final classification groups based on the addition of five behavioral and functional status variables not generally captured in discharge abstracts. These variables were developed from

questionnaire data unique to the study. Twelve of the 74 psychiatric patient classes (PPCs) were substance abuse PPCs. The remainder were mental disorder PPCs. The twelve substance abuse PPCs explained more than 31 percent of the variation in length of stay among the sampled VA psychiatric discharges. For the mental disorder PPCs, the variance explained was 11 percent. The corresponding values based on the psychiatric DRGs for the same data were only 2 and 3 percent, respectively.

The Ashcraft study used a patient assessment instrument to develop additional variables beyond psychiatric diagnosis to predict differences in length of stay. That study led to a further effort (Fries, et al., 1990), which resulted in the development of a classification system for long stay VA psychiatric patients, those with a length of stay greater than 100 days. This research was the first to consider which characteristics could explain measured resource use for chronic psychiatric residents. Those characteristics included a broad assessment of patients' medical conditions, functional status, mental deficits, treatments, as well as direct measurement of daily staff time spent with each patient. Using only six patient categories developed from these variables, the resulting long-stay classification system (PPCs) explained 11.4 percent of the variability in per diem resource use. While this number seems low, the Ashcraft and Fries VA studies were the

first to offer a patient assessment instrument approach for the construction of case mix measures potentially useful in a per diem psychiatric PPS.

Subsequent research has revealed that assessment instruments incorporating key indicators of patient functional status, such as activities of daily living (eating, bathing, etc.), treatment history, and specific behaviors can be important predictors of resource use. These findings have led CMS to implement PPSs for home health agencies and skilled nursing facilities (SNFs) which incorporate patient classification groups developed using data from those instruments. For example, the per diem SNF PPS implemented July 1, 1998 uses a patient classification system consisting of 44 case mix groups known as Resource Utilization Groups (RUGs) (Fries et al., 1994). The RUGs were developed from a core set of screening and assessment elements, including common definitions and coding categories. CMS most recently has used an assessment instrument to develop the case mix groups incorporated in the PPS for inpatient rehabilitation facilities implemented January 1, 2002.

Assessment instruments have filled an important need where CMS's administrative databases contained insufficient patient specific information necessary to develop statistically robust case mix measures which can predict differences in resource use. We have begun the process of standardizing the instruments used to develop PPS patient

classification groups to the maximum extent feasible and practical, in accordance with section 545 of Pub.L. 106-554. The goal is not only to minimize the provider reporting burden, but also to ensure that CMS's various case mix measures are based on data which reflect common definitions of patient functional status, behaviors, treatment practices, and other clinical measures. In the next section we describe research currently underway which uses an assessment instrument approach to help facilitate the development of an inpatient psychiatric PPS patient classification system.

THE UNIVERSITY OF MICHIGAN'S RESEARCH

Inpatient psychiatric care involves both acute care patients and chronic long-term patients with hospital stays that may exceed several years. Although there is a 190-day lifetime limit on Medicare coverage of services in freestanding psychiatric hospitals, this limit does not apply to distinct part units. The BBRA requires a patient classification system and a per diem PPS. Under the SNF PPS, patients are assessed at periodic intervals and when a significant change in condition occurs. This permits classification of the patient into different case mix groups, permitting changes in per diem payments as resource needs change during the course of the SNF stay. This multiple assessment feature of the SNF PPS, and opportunity for different case mix classification groups reflecting changes in resources used during the patient's stay, theoretically could be applied to the inpatient psychiatric setting.

In 1996 the Ontario provincial government sponsored research to construct a mental health assessment instrument. Similar to the SNF Resident Assessment Instrument (RAI), the measure developed for Ontario offered the possibility of developing a patient classification system predictive of per diem resource use in the inpatient setting. Given the

implementation of the RUGs patient classification system in the SNF PPS, an assessment instrument offered the possibility of constructing similar case mix groups for psychiatric inpatients.

In September 2000 the CMS contracted with the University of Michigan's Public Health Institute to conduct research which could assist CMS in developing a patient classification system based on a standard assessment tool which could be used in a psychiatric PPS. Dr. Brant Fries of the University's Institute of Gerontology is the principal investigator in this effort. Dr. Fries was a key researcher in the VA hospital studies, assisted CMS in developing the RUGs classification system used in the SNF PPS, and was a member of the team which created the mental health assessment instrument for Ontario.

The principal goals of the University of Michigan's research, activities to achieve them, and the estimated timelines for the accomplishment of key objectives are contained in Appendix B.

The University of Michigan's Public Health Institute has designed a draft assessment instrument for its research, the SCIPP (system for classification of inpatient psychiatry) mental health screener. The SCIPP screener consists of data elements believed to yield

variables clinically predictive of resource use, defined as staff time spent caring for patients.

It was developed based on findings from the VA and Canadian studies, but must be field

tested in the Medicare inpatient psychiatric population. Despite the availability of a

protocol assessment tool, precursors of which have shown promise, the industry has

expressed strong reservations about participating in CMS's sponsored research using a

patient assessment instrument approach. Those concerns have resulted in slow progress

toward completion of the initial phase of this research and the adoption of an initial

assessment instrument for pilot testing. Most of the concerns about an assessment

instrument relate to the administrative burden posed by an assessment form containing

numerous data items that the industry maintains have little to do with costs or payments.

MEDPAC, too, has noted the issue of provider reporting burden. In commenting on the

suitability of the Minimum Data Set for Post-Acute Care (MDS-PAC) in its March 2001

report to Congress, MEDPAC stated the following:

The MDS-PAC was developed by HCFA to be applicable across post-acute settings for payment and quality monitoring purposes.... However, we are concerned that the MDS-PAC is notably lengthy and complex, featuring more than 400 items and at least 7 different time frames for patient assessment...⁹

We believe that any assessment instrument used to design a patient classification system for use in a psychiatric PPS should follow certain guidelines. It should be administratively simple, have a reasonable number of data elements, rely on commonly available data, and be uniformly collected. It should focus on the minimum amount of data needed to achieve a statistically robust classification system that reflects differences in resources used. The CMS is sensitive to these concerns and is consulting with the industry as part of this research effort to develop the simplest, most administratively feasible, clinically oriented assessment instrument possible.

The industry has also expressed reservations that an assessment instrument approach may place an undue emphasis on detailed patient characteristics. While section 124(a)(1) of the BBRA requires the development of an “adequate patient classification system,” the wide variability in the types of inpatient psychiatric facilities, especially between acute and long term care institutions, makes this goal particularly difficult and challenging.

The BBRA requires the development of an “adequate” patient classification system. But what is adequate in the context of these concerns ultimately becomes a matter of policy consideration and judgment. Appropriately responding to the issues raised may even require the separate consideration of case mix from other factors. Examples of such factors

might include separate provider classification groups, distinguishing short stay from long-stay cases, an outlier payment mechanism, and recognition of regional variation in costs.

Because of these concerns, CMS has initiated an alternative research effort that does not include an assessment instrument approach. We describe that effort, and the information we hope to gain from it, below.

THE HEALTH ECONOMICS RESEARCH STUDY

As in other CMS payment systems, understanding the reasons for differences in cost is critical to develop a payment system that is equitable and promotes access to care. In the treatment of psychiatric disorders, the mode of practice or treatment philosophy used in a facility has long been thought to be a major determinant of resource use. The CMS's 1987 report to Congress (HCFA, 1987) cited this point as one reason why developing a psychiatric classification system has been so elusive. However, prior research has been focused on explaining resource use among psychiatric hospital stays and has not carefully investigated the relationship between per diem costs, mode of practice, and patient characteristics. Health Economics Research, Inc. (HER) is exploring the variation in per diem cost that results from differences in the mode of practice, and will analyze the extent to which differences in the manner of delivering inpatient psychiatric care can be explained by differences in patient characteristics.

About two-thirds of the direct expense of providing inpatient psychiatric services is captured in the routine cost category of the Medicare cost report. After the allocation of overhead, this category represents more than 90 percent of the costs presently reimbursed.

With only one cost category, there is no detail of services provided to each patient.

Consequently, using presently available data, it is impossible to relate differences in resource use to differences in modes of practice. The HER project will collect patient and facility level data from a small sample of psychiatric hospitals and units nationwide. These data will provide information on the extent to which variation in per diem cost across facilities can be explained by differences in the mix of services and staffing that characterize their modes of practice. The links among costs, practice mode, and patient characteristics will also be analyzed.

Mode of practice

The mode of practice can be defined by treatment modalities (services delivered) and by staffing levels. To analyze the mode of practice, HER first developed a typology of therapeutic services (activities) provided in inpatient settings. The services range from labor intensive activities, such as one-on-one intake assessments and evaluations, to less labor-intensive activities, such as group therapies. HER also developed a classification of psychiatric labor resources, which could be used to depict different staffing models. HER used these typologies to organize the collection of service and staffing data within the sampled psychiatric facilities. It is hypothesized that lower cost facilities use lower cost

practice modalities, which can result from either the use of lower cost labor and/or lower cost treatment methods.

Patient Characteristics

To link the mode of practice with patient characteristics, activity data must be collected at the patient level. Resource usage can be defined by estimating the cost of staff involved with providing patient care. This can be accomplished by linking each patient's activity with the time spent by each staffing type for an activity with the average wage rate for that staff. Adding the cost of each activity over a 24-hour period determines the per diem resource cost for a patient. These per diem costs can then be compared and linked with patient characteristics in order to explain resource use.

Patient characteristics are available from claims data (age, gender, diagnosis, etc.) and a small number of readily available variables not collected on claims (Global Assessment of Functioning score, DSM-IV diagnosis codes, functional deficits (activities of daily living), etc.) This limited number of candidate variables was selected in consultation with industry representatives and clinical consultants.

Analysis

HER will examine the extent to which mode of practice and staffing patterns explain per diem cost differences among various types of facilities (freestanding private hospitals, distinct part units, government hospitals, etc.) It will also analyze the extent to which different types of facilities treat different types of patients. Using a cluster analysis technique, the researchers will attempt to develop an index that could be highly predictive of resource use among the resulting psychiatric patient classification categories.

HER is also investigating whether a payment model is possible with a declining rate per diem as length of stay increases beyond specified thresholds. Such a model might reduce the need for a sophisticated psychiatric patient classification system. Data are being collected for a 7-day period in order to analyze the change in resources over time. This study feature will allow a test of a hypothesis advocated by Frank and Lave (1986) who suggested using a per diem rate that declines with the length of stay. The rate would be higher at the beginning of a stay in order to cover the higher costs associated with admission, and decline over time as treatment achieved stabilization of the patient's condition.

A RECENT CMS EVALUATION OF PER DIEM PSYCHIATRIC COSTS

The University of Michigan's research is expected to yield important information as to whether an assessment of a patient's specific behaviors and functional status can be used to develop a patient classification system which predicts differences in resource use. HER's research will explore the extent to which variations in per diem costs result from differences in the manner of delivery of inpatient psychiatric care, and whether those differences can be explained by differences in patient characteristics. Neither effort will produce results in sufficient time to develop a psychiatric PPS with the statutorily required "adequate patient classification system" by October 1, 2002, the law's prescribed implementation date. Given the delay in implementation caused by the need to complete research currently underway, CMS is also conducting analyses to determine the extent to which differences in per diem inpatient psychiatric costs can be explained based on administrative data which CMS currently maintains.

As part of this effort, we are reviewing a regression model presented by the American Psychiatric Association (APA). The APA's model was developed by the Health Economics and Outcomes Research Institute of the Greater New York Hospital Association. It used both facility variables and patient specific variables to predict variation in 1998

inpatient per diem psychiatric costs. Facility variables included the area wage index, ratio of interns and residents to beds, and percentage of disproportionate share patients. Patient specific variables included age, gender, length of stay, psychiatric DRG, and number of comorbidities classified in each of 12 disease etiologies identified as additional risk factors. The overall proportion of variance explained by the APA model was 22%.

The APA's research suggests that an inpatient psychiatric PPS, which relies on currently available administrative data appears feasible, and CMS is performing further independent analysis. Some key differences between the APA and CMS analyses include CMS's use of Medicare covered days for length of stay, alternative teaching and disproportionate share variables, and a more limited set of comorbid conditions. We also tested the elimination of gender from our models. These evaluations reveal that a regression model approach could be used to design a per diem inpatient psychiatric PPS based on the latest available Medicare cost report and claims information, appropriately updated.

Additional research must be conducted before a framework for a proposed psychiatric PPS can be developed. Due to the complex nature of this research, implementation of a psychiatric PPS cannot be completed by October 1, 2002. However, we believe that a psychiatric PPS, using the appropriate combination of facility and patient-specific

adjustments, would meet the BBRA's requirement for a PPS which includes "an adequate patient classification system..."

For example, one approach, which has shown promise would incorporate the following variables to adjust the per diem payment rates among freestanding psychiatric hospitals and distinct part units (DPUs):

- Hospital wage index—to adjust for differences in area wage levels among the locales in which facilities are located.
- Urban/rural location—to recognize that rural psychiatric facilities incur higher per diem costs.
- Medicare length of stay (LOS)—to reduce the per diem payment rates across various LOS blocks, because average per diem costs decline as LOS increases.
- Teaching intensity—Teaching facilities' costs are higher. The payment rates could be adjusted based on a ratio of residents to occupied beds (i.e., average daily census) as the measure of teaching intensity.

- Patient age—to recognize that older patients on average are more costly. Even after adjusting for the effects of other variables, we found significant differences in costs for patients under 65 and those over 65.
- DRGs—Because there is cost variability among the DRG categories, the fifteen psychiatric/substance abuse DRGs could be used as the principal case classification variable for psychiatric inpatients.
- Selected comorbidities—Notwithstanding the use of the psychiatric DRGs, patients with four identified comorbid conditions (end stage renal disease, human immunodeficiency virus, chronic obstructive pulmonary disease, and diabetes) were still more costly. The use of additional comorbidities beyond these four did little to increase the predictive power of this model.
- Acute Care Relationship—Even after controlling for the effects of other identified variables, exempt units were still more costly, reflecting the increased complexity of patients admitted from the acute care hospital with still-unresolved medical problems. An additional payment adjustment reflecting the greater

medical complexity of these patients would assure comparability with freestanding psychiatric facilities, all other things being equal.

An inpatient psychiatric PPS incorporating the above facility and patient-specific variables would reflect a site of service distinction to target higher payments to exempt units based on the assumption that these units on average have a more complex and costly case-mix. As a proxy variable, its use would reflect the absence of a more sophisticated psychiatric patient classification system more specifically linked to resource use. Once a more refined patient classification system emerges, we would expect to be able to develop inpatient psychiatric PPS risk adjusters independent of the type of facility in which treatment occurs. Differences in facility payments would be more closely tied to observed and measurable differences in patient resource requirements stemming from that classification system. The model we have described above is one approach that could be adopted to design an inpatient psychiatric PPS, which would comply with the BBRA's provisions, pending the completion of CMS's sponsored research. While a payment system reflecting the above variables based on available CMS administrative records likely can be developed, further research and analyses are required. The necessary evaluation of potential options precludes implementation of an inpatient psychiatric PPS by the prescribed statutory

due date of October 1, 2002. However, we believe that we soon shall be ready to proceed with a concrete recommendation for purposes of preparing a proposed rule to implement a payment system using the variables described above, and perhaps others as well.

CONCLUSION

Eighteen years have passed since the implementation of the Medicare hospital inpatient PPS. Although steady progress has been made in extending PPSs to other providers and post acute settings such as SNFs, inpatient rehabilitation facilities, hospital outpatient costs, and home health agencies, developing a Medicare PPS for inpatient psychiatric services will be difficult and challenging. The primary obstacle has been the lack of an appropriate patient classification system or case mix adjuster which can target higher payments to facilities with a more complex resource intensive patient mix.

We have presented a brief overview of the history of diagnosis based approaches and their limitations in this report. The enactment of the BBRA in 1999, with its October 1, 2002 implementation date for a psychiatric PPS, compelled CMS to initiate new research in order to comply with the statutory charge of developing an “adequate patient classification system that reflects...differences in patient resource use and costs...” The University of Michigan’s and HER’s research will yield information as to whether differences in treatment modes, behavioral and functional status, and other patient variables can inform an inpatient psychiatric patient classification system for psychiatric hospitals and exempt units.

CMS's recent evaluation of 1998 per diem psychiatric costs using available records has led it to identify various factors related to differences in costs among psychiatric facilities. While further evaluation is required, the analysis suggests that an inpatient psychiatric PPS for psychiatric hospitals and exempt units could be implemented prior to the completion of CMS's currently sponsored research with the University of Michigan and HER. Such an approach would permit subsequent refinements, but it would also make some implicit assumptions. Under the current TEFRA system, the cost of caring for patients is as strongly affected by the type and affiliation of the facility as by their diagnoses or characteristics. An inpatient psychiatric PPS based on currently available data from facilities would to some extent perpetuate these factors affecting costs. In other words such a PPS would rely more heavily on facility characteristics rather than patient characteristics. As a result, we would have a payment system more reflective of the historical costs of the facilities, rather than one more closely linked to the medical characteristics and clinical resource needs of the patients. The payment system created by such an approach would provide an adequate response to the law's requirement for a "system that reflects the differences in patient resource use and costs among [such] hospitals" through the use of facility-related proxy data and selected patient characteristics. However, we believe we

would need to continue our research to make the clinical connection between the cost of patient resources used and our payments more explicit.

In deciding how to proceed, we must balance the need to continue our research into psychiatric patient characteristics and associated services, with the goal of moving hospitals and exempt units from the TEFRA reimbursement system, to a per diem PPS as the BBRA requires. One option is a system that incorporates a case-mix measure reflecting currently available administrative data, with the expectation that once additional research is completed, a more sophisticated measure which would be more closely tied to patient-specific information could be available for use.

CMS's research and the work sponsored by the American Psychiatric Association indicate that an initial case-mix measure using available data can be constructed. We plan to continue our analyses, examine the use of alternative variables in constructing payment models for consideration, and test the consistency of our findings employing more recent data. However, the time necessary to construct this measure of case mix will take longer than the statute's October 1, 2002 implementation date. At the same time, we intend to perfect a data collection instrument that can be used to refine the case-mix classification

system. We ultimately would expect to use the best available system we can develop based on our efforts and findings from CMS's extramural research.

We recognize that the development of the inpatient psychiatric PPS will be challenging. However, we hope to proceed as quickly as possible.

APPENDIX A - Section 124 of the BBRA, Pub.L. 106-113**STATUTORY AUTHORITY**

Section 124 of the BBRA, Pub.L. 106-113, required the development of an inpatient psychiatric PPS, a report to the Congress, and implementation. The law is reproduced below.

Sec. 124. PER DIEM PROSPECTIVE PAYMENT SYSTEM FOR PSYCHIATRIC HOSPITALS**(a) DEVELOPMENT OF SYSTEM—**

(1)IN GENERAL.—The Secretary of Health and Human Services shall develop a **per diem prospective payment system** for payment for inpatient hospital services of psychiatric hospitals and units (as defined in paragraph (3)) under the Medicare program. Such system shall include an **adequate patient classification system that reflects the differences in patient resource use and costs among such hospitals** and shall maintain budget neutrality.

(2)COLLECTION OF DATA AND EVALUATION.—In developing the system described in paragraph (1), the Secretary may require such psychiatric hospitals and units to **submit such information to the Secretary as the Secretary may require to develop the system.**

(3)DEFINITION.—In this section, the term “psychiatric hospitals and units” means a psychiatric hospital described in clause (i) of section 1886(d)(1)(B) of the Social Security Act (42 U.S.C. 1395ww(d)(1)(B)) and psychiatric units described in the matter following clause (v) of such section.

(b)REPORT.—Not later than October 1, 2001, the Secretary shall submit to the appropriate committees of Congress a report that includes a description of the system developed under subsection (a)(1).

(c)IMPLEMENTATION OF PROSPECTIVE PAYMENT SYSTEM.—Notwithstanding section 1886(b)(3) of the Social Security Act (42 U.S.C. 1395ww(b)(3), the Secretary shall provide, for cost reporting periods beginning on or after October 1, 2002, for payments for inpatient hospital services furnished by psychiatric hospitals and units under title XVIII of the Social Security Act (42 U.S.C. 1395 et seq.) in accordance with the prospective payment system established by the Secretary under this section in a budget neutral manner.

(Emphasis added).

APPENDIX B - University of Michigan Research Project Status

The scope of this project entails research in support of CMS's design, development and implementation of a PPS for inpatient psychiatric hospitals and exempt units. Through June 30, 2002 this project has analyzed administrative data from CMS, the American Hospital Association, and the Substance Abuse and Mental Health Services Administration. These data were used to design a preliminary assessment instrument, detailed work plan, draft OMB clearance package, and selected analyses in support of this Report to Congress. The researchers have responded to comments from the industry regarding their work plan and preliminary instrument. These are in the process of revision, and a detailed sampling plan has been developed for instrument testing and the collection of data using a rigorous staff time measurement study. In addition to the work on the development of patient classification systems, this project is collecting and analyzing information for the facility adjustment phase, and developing detailed information to simulate potential prospective payment systems.

Project staff will be revising the assessment instrument and conducting reliability testing of the instrument in approximately 40 facilities. Then a nationally representative

sample of facilities will be selected (approximately 300 facilities) in order to collect information using the assessment instrument and conduct staff time measurements for patient classification. The target completion date is November 2002. Analysis of this information will be used to develop a proposed instrument and a patient classification system. In addition, the project has created a data base for assessing facility adjustment options and simulations in support of an inpatient psychiatric facility PPS. We anticipate that the results from these analyses will be available by December 2003.

The major tasks for this project are:

1. Assessment Instrument

Summarize and assess previous research on the development of patient classification systems and assessment instruments applicable to the inpatient psychiatric setting. Explore the feasibility of developing an assessment instrument for psychiatric inpatient Medicare patients. This may include, but not be limited to, the developmental aspects of the RAI-MH. Analyze existing instruments, make recommendations regarding adaptation, development, and possible testing of an assessment instrument specific to the collection of payment directed data for Medicare beneficiaries in psychiatric hospitals and exempt units. Prepare detailed

recommendation to CMS describing the status of existing and potential instruments.

Perform detailed analysis; assess the implications for implementation including the timeframe for development, administration, testing, cost, use, and ease of industry assimilation.

Design and submit (and /or participate in the design of) to CMS for review and approval a pilot test of this instrument. Included in this design should be the sample size, detailed work plan including training plan, analysis, and timeframe required for instrument modification. Assess reliability of the proposed instrument and conduct a field test of the proposed assessment instrument. This field effort should include sample size required, type of sample, protocol for data collection, mode of administration of the instrument, training, data collection, and analysis plan.

As a part of the field effort, staff time measurement studies (STMs) should be included. These STM studies should include hand held computer methodology and paper form options. Consideration should be given to site self administration of the STM study.

2. Create Data Base and Analyze Data

Create a data base including, but not limited to, CMS administrative data.

This data base should include the Medicare population using psychiatric facilities.

Create and analyze these data to describe the population, facilities, and distinct part units by ownership, geographic distribution, and any other related variables.

Perform market analysis and assess the state and regional impact. In addition, analyze the relationship across all post-acute care services, the diagnosis and characteristics associated with psychiatric inpatient patients, common characteristics, distinctions in characteristics, length of stay, co-morbidities and transfer patterns.

Post-acute care services in this context include, but are not limited to SNFs, rehabilitation facilities, long term care facilities, and home health. Prepare a report that delineates in detail the population, relationship to, and potential service substitution of other post-acute care settings. Discuss potential models to assist in the development of a prospective payment system for psychiatric facilities, and make recommendations to CMS regarding the most feasible approach to developing and implementing a PPS for this population. Anticipated tasks in connection with this phase of the project include:

- Determine whether a definition of resource utilization based on staff time measurements can be constructed.
- Determine the extent to which development of statistical cost functions, or facility/exempt unit specific case-mix indexes based on case-mix classification groups, may be limited by the availability of data in CMS's MEDPAR and other central record files. Design crosswalks or other interpolative techniques to overcome these limitations.
- Identify, apply, and analyze these data using traditional statistical tests of variance reduction to measure the predictive power and within group homogeneity of the possible psychiatric hospital and exempt unit patient classification groups. Validate and replicate where feasible, clinically and statistically coherent classification groups. Compare and contrast using, as necessary, subgroup analysis, and data available from primary or secondary assessment instruments.

3. Analysis to Assist CMS in Developing a PPS

Assist in developing, assessing, analyzing, specifying plans and protocols, and making recommendations for a per diem PPS for psychiatric hospitals and

exempt units which incorporates the case-mix classification system developed under the previous tasks. This includes but is not limited to:

- Developing a methodology to assist in the development and construction of possible relative weights.

- Assist in the development of and creation of possible relative weights and facility specific case mix indexes or other methods of case mix classification.

- Assist in the development of possible payment methodologies for special cases (i.e., day/cost outliers including short stays, deaths, transfers or interrupted care, and teaching hospitals)

- Consider non-therapy ancillaries and comorbidities.

- Devise potential methods for treatment of capital and direct medical education costs.

- Addressing potential differences in per diem resource consumption between short-stay and long-stay psychiatric cases and accommodating those differences in the proposed PPS (e.g., use of multiple RAI-MH assessments, examination of their frequency and timing, etc.).

4. Simulations

Simulate the potential impact of implementation of the proposed psychiatric PPS under a multiple year phase-in. The simulation should distinguish at a minimum between facilities that are teaching and non-teaching, urban and rural, for profit and non-profit, freestanding and exempt unit, governmental and non-governmental, and by region.

5. Monitoring System

Assist in designing and make recommendations regarding the development of a monitoring system which CMS can use to assess the need for changes in the patient classification system incorporated into the Medicare psychiatric PPS over time.

6. Refinements

Outline and include recommendations on the development of refinement protocols with recommendations for identifying priority areas of refinement, additional study, or expansion of effort.

APPENDIX C - Health Economics Research Project Status

Through June 30, 2002, 22 facilities have been studied in 9 areas of the country.

Data are in the process of being analyzed using both descriptive and multivariate techniques.

HER has submitted a preliminary report on the first four study sites. This report gives a first

look at the magnitude and direction of per diem resource variation from a limited set of

facilities. The small number of study sites precludes performing the analysis stated below,

although it may inform the concept of increasing per diem payments at the beginning of a

stay. During 2002, we expect the study will be expanded to include up to 40 facilities, with

a final report on all facilities studied due in October, 2002.

The HER project will perform the following tasks:

1. **Assist in developing an inpatient typology of services:** HER completed this task prior to the start of fieldwork with the help of industry representatives.
2. **Collect patient activity data:** For each patient in a unit of a sampled facility, daily activity times are collected for each 8 hour shift in 5 minute blocks using the typology of inpatient psychiatric activities developed for this study. The study period is 7 days.

3. **Collect staffing time and wage data:** Staff time needed to perform the patient activities and wage information is needed to compute average costs for each type of staff.
4. **Relate patient activity to average staffing cost:** By associating average staffing costs with each patient activity, the resource use and cost for each patient can be determined.
5. **Define patient characteristic and classification variables:** Patient characteristic data from claims (age, gender, diagnosis, etc.) plus an additional set of 20 readily available variables not available from claims (e.g., Global Assessment of Functioning (GAF) score, DSM-IV diagnosis codes, functional deficits (ADLs), etc.) are being collected as possible patient classification variables.
6. **Analyze data:**
 - **Explain cost differences by facility types.** This analysis will assess the variability of services across facility types, identify differences in practice patterns, differences in the type of patients treated, and how different staffing models influence routine cost variation.

- **Assist in developing a Resource Usage Index.** Using a statistical procedure, associate the candidate patient classification variables with each Medicare patient's resource usage in order to define a homogenous resource cluster.

Relative resource use weights will be developed for each cluster, which when coupled with other payment factors, such as a wage index, may form the framework for a per diem payment system.

- **Investigate a declining per diem payment model.** Under this model, a higher payment would be made at the beginning of a stay to reflect the greater use of ancillaries and costs that vary by the case, and not by the day.

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ENDNOTES

¹ DRGs 424 through 438. See 48 FR 39885 published September 1, 1983.

² Section 601(e) of PL 98-21 exempted not only psychiatric hospitals and distinct part units from the Medicare hospital PPS, but also rehabilitation hospitals and units, children's hospitals, and hospitals with an average length of stay greater than 25 days.

³ Required in accordance with section 603(a)(2)(c)(ii) of PL 98-21.

⁴ This generally means how much the variation in resource consumption variables such as length of stay, charges, or costs is reduced by grouping patients in the study population in various ways. The goal is to achieve as large a reduction in variance as possible with as few groups as possible.

⁵ Now the Medicare Payment Advisory Commission ("MEDPAC").

⁶ PROPAC, Interim report on payment reform for PPS-excluded facilities. Congressional report C-92-05, October 1, 1992, p. 33.

⁷ MEDPAC, Report to the Congress: Medicare payment policy, March 1999, p. 77.

⁸ The total of 645,146 discharges includes cases classified in DRG 12, Degenerative Nervous System Disorders, because of their incidence among psychiatric hospitals, exempt units, and non-exempt facilities.

⁹ MEDPAC, Report to the Congress: Medicare payment policy, March 2001, p. 93.