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Psychiatric Inpatient Capacity in Pennsylvania:

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Introduction: The downsizing and closure of state psychiatric hospitals over the last several decades has prompted concerns about the adequacy of resources available to ensure the safe transition and recovery of individuals with psychiatric disorders into the community. What was not anticipated was the decline in community psychiatric beds in general and private hospitals beginning in the 1990s which was the result of greater gate-keeping and utilization review activities by managed care organizations as well as decreases in reimbursement rates for psychiatric inpatient care.

Study Objective: This study examines psychiatric treatment capacity in Pennsylvania hospital over a 16 year period between 1990 and 2006. The trends in the number of beds, length of stay, occupancy rates, emergency room admissions, etc. and the extent of geographic variation in psychiatric resources across Pennsylvania are described. Factors related to the variation of psychiatric beds are identified so that policy makers can better understand the adequacy of psychiatric resources in the state.

Methods: This study involved a longitudinal descriptive analysis of the number of state hospital, acute and sub-acute community hospital beds, patient discharges, and per capita mental health and residential expenditures from public sources such as Medicaid and state block grant funds by region and county. Data sources included Pennsylvania state hospital data (PCIS), Pennsylvania Cost Containment Council data (PHC4), Medicaid expenditure data, jail survey data and census data. Patient discharges from non-state hospital beds for psychiatric diagnoses, as well as substance abuse diagnoses, by "all payers" were included. Mapping techniques were used to identify clusters of high and low utilization. Correlation analysis was used to identify potentially significant factors associated with bed capacity and utilization.

Results: Based on census figures, the population of the state rose 10% over the study period. Our findings showed a 29% decline in total psychiatric beds (15% decrease in non-state hospital beds; 46% decrease in state hospital beds). Despite the 15% decrease in non-state psychiatric beds, discharges increased by 32%, suggesting that the reduction in community beds did not prevent people from being hospitalized. This was accomplished, in part, by a 33% decrease in average length of stay (15 days to 10 days) which allowed greater turnover. During this period, hospitalizations for substance abuse diagnoses decreased 68%, while a doubling of hospitalizations for affective diagnoses occurred. With regard to rehospitalization rates, readmission to non-state psychiatric beds rose slightly from 1.3 per person in 1990 to 1.4 in 2006 and admissions to a psychiatric bed through the Emergency Room increased from 42% to 48%. Payer status remained fairly constant with the percent of Medicaid discharges in 2006 at 28%, Medicare Discharges at 21%, Commercial/Private Insurance Discharges was 43%. The average occupancy rate for non-state psychiatric hospital beds in 2006 was 62%.

Our study findings showed evidence of geographic disparities in psychiatric beds with fewer beds per capita in the Southern area of the State. Similar to the research findings of the Congressional Budget Office and the Dartmouth Atlas Project that found large differences in Medicare costs for the same procedures across the country, geographic variability in resource capacity and expenditures was found to be equally large in Pennsylvania. The number of non-state psychiatric beds per 10,000 population was positively correlated with both the number of discharges per 10K and length of stay. This suggests that higher bed capacity per capita is associated with a higher number of discharges and longer length of stay per episode. Patients living in counties with fewer beds per capita are more likely to go outside their mental health county area for inpatient treatment and on average appear to travel longer distances to access this care.

Contrary to our expectations, counties that had high outpatient expenditures per capita had significantly more beds. This complementary relationship indicates a lack of substitution of outpatient for inpatient care.

There was also no significant relationship between the percentage of patients hospitalized for schizophrenia and the number of non-state psychiatric beds per capita. This suggests that severity of illness is not related to utilization. Furthermore we found no signification relationship between total psychiatric beds per capita and the jail census in the county.

Conclusions: The trend showing a decline in inpatient psychiatric beds and length of stay and an increase in discharges in Pennsylvania is comparable to the US trend. Despite the bed declines, there is no evidence to support a "revolving door" syndrome as annual episodes per person have increased only slightly over the 16 years and the time to rehospitalization is similar over the entire period as well.

Also, there is no direct evidence of a bed capacity problem based on an average bed occupancy rate of 62%, although this varies by county. Nonetheless, though there may appear to be adequate bed availability, the beds may not all be staffed or made accessible to public sector patients whose reimbursement rates may be less desirable than other payers. Also, managed care strategies may be reducing admissions to a psychiatric bed even when one is available.

With respect to the increase in hospital admissions through the emergency room, it is unclear whether this is related to administrative procedures of managed care programs or a lack of adequate community resources. Since Pennsylvania's discharge data does not contain information on emergency room visits that do not result in a hospital admission, we cannot verify empirically the reports by mental health providers of higher emergency room utilization for psychiatric problems. However, there is national data to support this concern. A recent analysis of Pennsylvania emergency rooms done by the PA Office of Medical Assistance found that a large number of patients with psychiatric disorders presenting at the ED were seeking help for health related problems, not mental health issues.

Our finding that a larger percent of individuals requiring psychiatric hospitalization go outside their county for treatment when bed supply is low does suggest inadequate inpatient resources in some areas of the State. On the other hand, the assumption that high jail detention rates per capita are an indicator of a lack of adequate psychiatric bed capacity is difficult to support in this study, as we found no evidence that showed that lower psychiatric bed capacity was associated with higher jail census. It is likely that changes in legal guidelines associated with drug activities accounts more than psychiatric bed capacity for the increase in incarceration rates over time since those with mental illness have a high degree of co-morbid substance abuse problems.

It should be noted that although our capacity data includes information on all payers with respect to beds, discharges, occupancy rates, ED admissions, etc, it does not contain outpatient behavioral health expenditures for all payers, only those in the public sector. Thus the correlation between beds and discharges and community resources does not take into account the amount of privately reimbursed outpatient dollars spent.

Policy Implications: This study shows that there are considerable differences in psychiatric bed capacity, utilization and occupancy rates across the State. Distances travelled to a bed are sometimes very long and in some counties the percentage of people going outside their area of residence is great. Community expenditures as well as residential options also vary greatly. Most of these factors are amenable to change, should it be found that they are creating access problems.

Where there is low bed capacity and high occupancy rates, i.e., York/Adams and Washington/Greene, more qualitative information would be helpful in determining whether a psychiatric bed capacity crisis exists. For example, it would be important to know the extent to which the population in the Southern part of the state may be using the Veterans Hospitals or going across the Pennsylvania border to Maryland.

Also, in areas where the occupancy rates are not excessively high, we need to know the extent to which psychiatric patients are being denied inpatient care due to gate-keeping strategies used by insurers or hospital providers, in which case, capacity is not the issue. Also, it may be that physicians and hospitals are

not adequately prepared to care for psychiatric patients with health related problems, accounting for the high use of emergency rooms for physical problems.

Finally, the passage of parity legislation and its effect on psychiatric utilization needs to be closely followed over the next few years to see how expanding access to psychiatric care to privately insured persons affects the access of seriously mentally ill individuals in the public sector to mental health care.