Planning District 15 Behavioral Health Task Force Report

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DataShare Richmond

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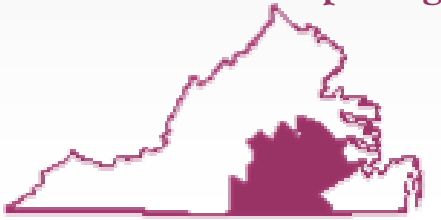

March 2004

PLANNING DISTRICT 15 BEHAVIORAL HEALTH TASK FORCE REPORT

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EXECUTIVE SUMMARY

The Planning District (PD) 15 Behavioral Health Task Force is an outgrowth of the Richmond Acts, Collaborates, and Educates (RACE) for Health conference, hosted by Richmond Enhancing Access to Community Healthcare (REACH) in October 2002. Through RACE for Health and other community forums, large gaps in behavioral health services have been identified as stressors on other service resources in the community, such as housing, public safety, medical, and homeless services. In January 2003, a RACE for Health follow-up meeting was held to prioritize the gaps in the area's health care services for persons who are uninsured or underinsured and form task forces to address the most pressing gaps, one of which was behavioral health.

The Behavioral Health Task Force composed of human services providers and the Central Virginia Health Planning Agency (CVHPA), was established in February 2003. At its second meeting, the Task Force realized it lacked sufficient resources to conduct its work. Consequently, the Central Virginia Health Planning Agency (CVHPA), in collaboration with REACH, submitted and received a grant from DataShare Richmond in May 2003 to facilitate a multidisciplinary group and develop an approach **to a comprehensive behavioral health plan for Planning District (PD) 15,** which consists of the Counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, and Powhatan and the City of Richmond. The Task Force also expanded its membership to include other behavioral health and primary care providers and professionals.

The report's primary purpose is to examine patterns of behavioral health inpatient hospitalizations in PD 15 to determine the potential reasons for the unusually high utilization. The Task Force's objectives are:

1) to identify likely factors causing the unusually high level of inpatient behavioral health admissions;
2) to develop concrete initiatives to decrease the high level of inpatient behavioral health admissions, including identification of services for those who lack services and for those who may need more appropriate or accessible mental health and substance abuse services;
3) to identify additional data, information, and/or analyses that would be beneficial in understanding utilization patterns and/or targeting interventions to appropriate populations; and
4) to assess the behavioral health needs of persons receiving services at Richmond area community-based health centers and homeless services providers.

Data for this analysis were obtained from several sources, with the primary sources being the Virginia Health Information (VHI) and the Department of Mental Health, Mental Retardation, and Substance Abuse Services (DMHMRSAS). The Task Force surveyed psychiatrists to obtain their input on services available for people with frequent acute care hospitalizations for psychiatric disorders, substance abuse, and/or dual diagnosis (both a psychiatric diagnosis and a substance abuse diagnosis), barriers to services, and factors contributing to acute care readmissions. In addition, the Task Force surveyed 21 community-based health centers and homeless providers to assess the behavioral health needs of their clients.

The key findings from the data reviewed by the Task Force are listed below. Unless otherwise noted, the data is from calendar year 2001.

KEY FINDINGS

Inpatient psychiatric care is unusually high in PD 15, compared to other planning districts and Virginia as a whole:

- PD 15's inpatient psychiatric utilization and readmission rates are the second highest of any planning district in Virginia. PD 19 (Tri-Cities/Emporia area), adjacent to PD 15, has the highest psychiatric utilization and readmission rates. The CVHPA completed a similar behavioral health study for PD 19 last year.
- The PD 15 utilization rate is one and a half times greater than the State's overall rate.
- One-third of all psychiatric patients discharged from PD 15's non-state psychiatric facilities are readmitted within 90 days of discharge, compared to less than 27% on average statewide.
- Approximately 12% of all local psychiatric inpatients in PD 15 hospitals are admitted three or more times over the course of a year; a rate which is 43% higher than the statewide average.

The strongest predictors of persons with three or more admissions during a year include the following: a diagnosis of schizophrenia or bipolar disorder; a prior year's hospital history and a higher number of hospital admissions in the prior year; and residence in Richmond, as opposed to the surrounding areas:

- PD 15 readmissions within 90 days are especially high for patients classified into one of these three all patient refined diagnostic related groups (APRDRG): schizophrenia (49.5%), bipolar disorders (32.0%), or psychotic disorders (27.8%). These three APRDRGs comprise approximately 75% of all 90-day readmissions.
- Compared to the State, PD 15 generally had a higher percentage of patients with two psychiatric admissions and always had a higher percentage with three or more psychiatric admissions. This finding was true for all six categories of readmissions data reviewed (age, gender, race, APRDRG, principal diagnoses, and payer).
- Of the approximately 400 physicians who discharged patients with behavioral health related diagnoses from hospitals in PD 15, twenty-two physicians (or 5.4%) accounted for approximately 80% of the patients readmitted within 90 days.

This significant reliance on local psychiatric inpatient care for this population is closely related to a lack of appropriate alternative community-based support services:

- PD 15 safety net providers are serving a disproportionately higher number of people with behavioral health disorders; for example, an estimated 40% of consumers evaluated by community-based health center and homeless services' staff had a behavioral health disorder, with rates 4.5 times the national average for schizophrenia and 2.5 times the national average for affective disorders.
- The major contributing factors that surveyed psychiatrists noted for multiple admissions include the following: lack of alternatives to inpatient services; limited community services; poor follow-up compliance or difficulty obtaining follow-up care; problems with support systems; and patient substance abuse issues.
- Whenever possible, these surveyed psychiatrists primarily refer to the Community Services Boards (CSBs), the main community resource, to meet their patients' needs for community behavioral health services. Please note that the surveyed psychiatrists' practices may not adequately represent those caring for privately insured patients. As evidenced by the psychiatrist survey, the top two barriers their patients face are lack of funding/insurance and limited services.

PD 15 CSBs have demonstrated successful models of appropriate alternative community-based support services, but are hampered by a systemic lack of funding:

- The 688 participants of the HPR IV CSB-operated Acute Care Project have local hospital lengths of stay of approximately seven days and readmission rates of only 4.6% within 30 days, compared to PD 15's 30 day readmission rate of 20.3%.
- Programs of Assertive Community Treatment (PACT) teams, self contained clinical teams that provide treatment, rehabilitation, and support services to clients with histories of repeated hospitalizations, reduce state hospital readmissions by 62% and bed-day utilization by 80% for an average annual cost savings to the State of $6,300 per consumer. Three PACT teams serve approximately 269 consumers in PD 15.
- In 2001, Virginia's public mental health care budget was 23.5% below the national average, whereas in 1981, it was 8% below the national average.
- Virginia's public mental health care budget is under the national average by $17 per capita, and its community-based public mental health system is funded at less than half the national average.

Resources currently dedicated to inpatients with multiple readmissions could potentially be redirected to proven models of more appropriate alternative care:

- While PD 15 residents with three or more admissions in 2001 (a total of 939 patients) comprised only 14% of the total number hospitalized, the charges associated with their hospital care equaled 37% ($27.6 million) of the total reported charges.
- At least half of the $27.6 million in charges for these 939 patients, or approximately $13.8 million, represent actual costs incurred by a variety of both public and private sources.
- By comparison, $13.8 million could fund the equivalent of fourteen PACT Teams, providing comprehensive behavioral health services to more than 1,000 consumers each year. Spending funds on community-based services for these 939 patients with multiple admissions would provide them with a broader range of services, which could reduce their hospital admissions.

INTRODUCTION

The Planning District (PD) 15 Behavioral Health Task Force is an outgrowth of the Richmond Acts, Collaborates, and Educates (RACE) for Health conference, hosted by Richmond Enhancing Access to Community Healthcare (REACH) in October 2002. Through RACE for Health and other community forums, large gaps in behavioral health services have been identified as stressors on other service resources in the community, such as housing, public safety, medical, and homeless services. In January 2003, a RACE for Health follow-up meeting was held to prioritize the gaps in the area's health care services for persons who are uninsured or underinsured and form task forces to address the most pressing gaps, one of which was behavioral health.

The Behavioral Health Task Force, composed of human services providers and the Central Virginia Health Planning Agency (CVHPA), was established in February 2003. At its second meeting, the Task Force realized it lacked sufficient resources to conduct its work. Consequently, the CVHPA, in collaboration with REACH, submitted and received a grant from DataShare Richmond in May 2003 to facilitate a multidisciplinary group and develop an approach **to a comprehensive behavioral health plan for Planning District (PD) 15,** which consists of the Counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, and Powhatan and the City of Richmond (Attachment 1).

The PD 15 Behavioral Health Task Force expanded its membership to include other behavioral health and primary care providers and professionals. The Task Force has met six times since April 2003. The following is a list of the Task Force's membership:

Daily Planet	Mort Casson, Helena DeLigt
Gateway Homes	Lynn Brackenridge, Gretchen Ridgely
Greater Richmond Homeless Respite	Ivy Brown
Homeward	Marc Leslie
Hospitals	
Bon Secours	Mark Cooper, Michele Hereford
CJW Medical Center –Tucker Pavilion	Trula Minton
VCU Health System	Eden Alexander, La Von Jones-Jiles
Irvin Gammon Craig Health Center	Gay Gibson
Parish Nurse	Chris Abbey
PD 15 Community Services Boards	George Braunstein
REACH	Denise Daly, Jerad Hanlon
Rubicon	Rufus Alkebulgn
Virginia Department of Mental Health	Michael Shank
Virginia Institute of Neuropsychiatry	David Ross, M.D., Kathy Tierney
Central Virginia Health Planning Agency	Karen Cameron, Elizabeth Farrell

The Task Force determined that detailed information about the behavioral health service needs in the Richmond area, particularly those demographic groups at greatest risk, along with a data-based planning process, were critical to appropriately focus the Task Force's efforts. In addition, the CVHPA believed that PD 15's unusually high inpatient behavioral health utilization needed

to be assessed further and an informed approach to a comprehensive behavioral health plan for PD 15's communities needed to be developed.

PD 15 has the second highest number of psychiatric discharges per 1,000 population (12.3 compared to 7.3 for Virginia) **and the second highest psychiatric readmission rate** (34.4% compared to 27.1% for the Commonwealth) **in Virginia**. The planning district with the highest admission and readmission rates is PD 19 (Tri-Cities/Emporia area). Of note, in non-state hospitals, it is common to use the term "discharge" to indicate a patient's stay in the facility.

The report's primary purpose is to examine patterns of behavioral health inpatient hospitalizations in PD 15 to determine the potential reasons for the unusually high utilization. The Task Force's objectives are:

1) to identify likely factors causing the unusually high level of inpatient behavioral health admissions;
2) to develop concrete initiatives to decrease the high level of inpatient behavioral health admissions, including identification of services for those who lack services and for those who may need more appropriate or accessible mental health and substance abuse services; and
3) to identify additional data, information, and/or analyses that would be beneficial in understanding utilization patterns and/or targeting interventions to appropriate populations.
4) to assess the behavioral health needs of persons receiving services at Richmond area community-based health centers and homeless services providers.

As a point of clarification, the PD 15 Behavioral Health Task Force fully recognizes that most psychiatric disorders include a substance abuse component as well. However, most of the data reviewed mainly addressed psychiatric discharges. Since reimbursement for substance abuse is limited, it is frequently not reported or coded. It is likely that many psychiatric admissions include a substance abuse component.

Data for this analysis were obtained from several sources, with the primary sources being the Virginia Health Information (VHI) and the Department of Mental Health, Mental Retardation, and Substance Abuse Services (DMHMRSAS). The Task Force surveyed psychiatrists to obtain their input on services available for people with frequent acute care hospitalizations for psychiatric disorders, substance abuse, and/or dual diagnosis (both a psychiatric diagnosis and a substance abuse diagnosis), barriers to services, and factors contributing to acute care readmissions.

In addition, the Task Force surveyed 21 community-based health centers and homeless providers to assess the behavioral health needs of their clients. The surveys were conducted during an intake interview at the homeless services provider or during the history and physical at the health center (6 community-based health centers, 5 emergency shelters, and 10 transitional housing facilities). Questions included basic demographic information about clients receiving services at the health centers or homeless services programs during a given week and included a simple assessment of the person's behavioral health status and related treatment. Survey highlights are

included throughout this report. For more information or a copy of the complete survey results, contact REACH (804/827-3224).

This Task Force report provides a summary of the data and information collected, reviewed, and analyzed by the PD 15 Behavioral Health Task Force. The CVHPA would like to thank Anson Williams with VHI for his assistance in collecting the readmissions data; Michael Shank with the DMHMRSAS for his assistance in analyzing some of the data for the Task Force to review; and the volunteers and staff at the area homeless and safety net providers who participated in the homeless/safety net providers' surveys. We also greatly appreciate DataShare Richmond's assistance with financial support for the project.

OVERVIEW OF BEHAVIORAL HEALTH

This report focuses on behavioral health disorders, which encompasses psychiatric and substance use diseases, and their impact on the community. This Task Force recognizes the significant impact of substance abuse on the community as it relates to emergency department visits, patients' failure to take medications, and increased health care utilization. However, because substance abuse is often underreported, it does not significantly appear in most data reporting systems and, therefore, it is difficult to obtain accurate and adequate substance abuse data for analysis. Results of the behavioral health survey conducted by the Task Force show that approximately 38% (n=189) of the study sample was diagnosed with a substance abuse problem and 3.8% (n=19) were suspected of having a substance abuse problem.

Much research has been conducted in the last decade related to neuropsychiatry and the physiological changes to the neurological system, which gives a biological base to most behavioral health disorders, such as depression, bipolar disorder, schizophrenia, alcohol abuse/dependence, and drug addiction. Some behavioral health disorders are chronic in nature, requiring lifelong treatment and support, including medication, therapies, and hospitalizations. With proper treatment, it is possible for people with these disorders to manage their symptoms and eventually recover. Many behavioral health disorders are episodic in nature, such as depression, triggered by such events as grief, loss, or physical illness; or trauma caused by sexual or physical abuse of children or adolescents, which precipitates failures in school, depression, suicide, or violent behaviors.

When reviewing this report, it is useful to note the following information about behavioral health disorders presented by Dr. Anita Everett at a 2002 summit on Integrating Behavioral Health Care in Primary Care Settings:

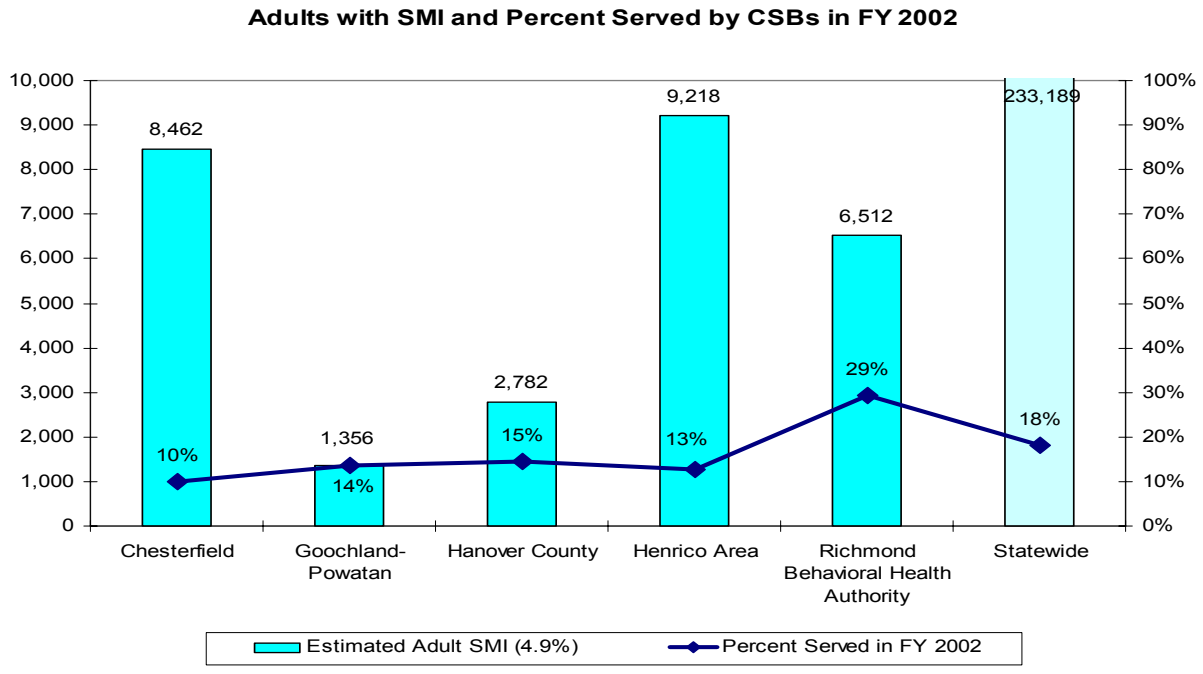
1) Many people with diagnosable behavioral health disorders are likely to seek help from a primary care physician. In fact, the Surgeon General's Report on Behavioral Health, published in 1999, stated that 50% of those who need professional help for behavioral health problems do not receive services from behavioral health professionals.
2) In national studies, the most common reasons given by people for not seeking treatment are the belief that the problem would go away or that they could handle the problem on their own.

3) Among the top ten conditions leading to disability worldwide, four are related to behavioral health: depression; bipolar disorder; schizophrenia, and obsessive compulsive disorder.

PREVALENCE OF BEHAVIORAL HEALTH DISORDERS

The prevalence of behavioral health disorders is significant nationally, statewide, and in PD 15. According to the January 2001 report by The National Institute of Behavioral Health, *The Numbers Count: Mental Disorders in America*, an estimated 22.1% of Americans 18 and older (about one in five adults) suffer from a diagnosable mental disorder in a given year. Based on national prevalence of selected behavioral health disorders, approximately 143,000 people (18 years and older) in PD 15 would be expected to suffer from a diagnosable mental disorder in any given year (Table 1 – attached in appendix).

In Virginia, individuals with serious mental illness (SMI), which includes schizophrenia, psychoses, and bipolar disorders, are estimated to comprise 4.9% of the general adult population, representing 233,189 adults. Statewide, Community Services Boards (CSBs), the community public behavioral health system's local authorities, serve approximately 18% of those people with SMI. As shown below, by comparison, the Richmond Behavioral Health Authority (City of Richmond's equivalent of a CSB) serves 29% of the total estimated 6,512 SMI adults in the City of Richmond.



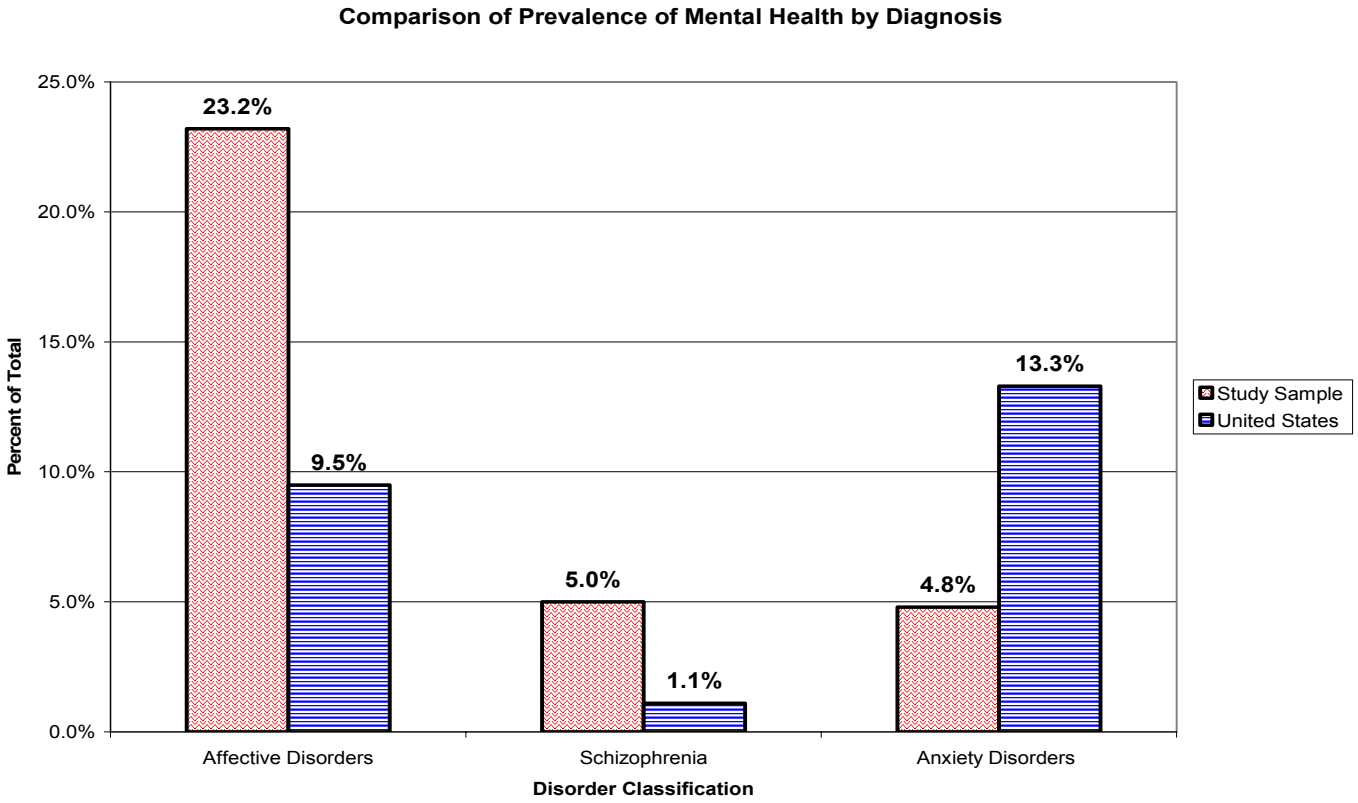
Source: DMHMRSAS

The CVHPA conducted a household community needs assessment survey during the winter of 2002/2003, covering the twenty-seven localities in Health Planning Region IV. The following table provides an estimate of the need for mental health and substance abuse services for localities in PD 15. **Of note, respondents were more willing to admit that they or a family member needed mental health services than substance abuse services. It can safely be assumed that the prevalence of substance abuse was underreported in this survey.**

LOCALITY	NEED BEHAVIORAL HEALTH SERVICES IN PAST YEAR?		NEED SUBSTANCE ABUSE SERVICES IN PAST YEAR?	
	Number (est.)	Percent	Number (est.)	Percent
Charles City	434	6%	72	1%
Chesterfield	46,094	17%	5,423	2%
Goochland	2,628	15%	876	5%
Hanover	12,887	14%	921	1%
Henrico	37,558	14%	5,365	2%
New Kent	1,416	10%	425	3%
Powhatan	2,400	10%	960	4%
Richmond	35,542	18%	5,924	3%
PD 15 TOTAL	**142,693**	**16%**	**26,755**	**3%**

Source: CVHPA's Community Needs Assessment Survey, December 2002 to February 2003

Compared to the U.S. population and the representative sample of households included in the CVHPA's Community Needs Assessment Survey, the agencies participating in the task force's Behavioral Health Survey have a greater proportion of clients with behavioral health disorders. Nearly one-third (32.5%, n=161) of the persons evaluated by community-based health center and homeless services staff had a diagnosed behavioral health disorder and 7.6% (n=38) were suspected by intake staff or health center clinician to have a behavioral health disorder (range: 32.5% - 40.1% of survey sample). The top three most common classifications of mental illness were affective disorders (61%), schizophrenia (14.3%), and anxiety disorders (11.7%). Affective disorders noted on surveys included bipolar, depression, and mania. Anxiety disorders included on surveys were anxiety, panic attacks, phobias, post traumatic stress disorder, and generalized anxiety. Of the total study sample, 23.2% had an affective disorder (9.5% national sample), 5% had schizophrenia (1.1% national sample), and 4.8% had an anxiety disorder (13.3% national sample).



Source: The National Institute of Behavioral Health, The Numbers Count: Mental Disorders in America, January 2001 (for U.S. data)

Of the persons surveyed at a homeless services providers, 46.5% (n=105) were classified as having a behavioral health disorder; in comparison, 34.8% (n=94) of the health center clients were classified as having a behavioral health disorder.

Of note, health centers with the largest populations returned few surveys. Also, persons receiving services at homeless services providers must elect to receive case management services. Surveys returned by homeless services providers were completed by case managers, thus the rates of behavioral health and substance abuse in the homeless services population could be different than the rates of all persons receiving services at local homeless agencies.

BEHAVIORAL HEALTH UTILIZATION IN PD 15

NON-STATE FACILITIES

During the time period from 2000 to 2002, five facilities (Capitol, Chippenham, Bon Secours Richmond Community, St. Mary's, VCUHS) provided inpatient psychiatric services in PD 15. This section describes the operations data for these psychiatric facilities: licensed beds (the total number of hospital beds licensed by the Department of Health), staffed beds (the number of licensed hospital beds that are staffed, on any given day, based on patient volume, availability of staff, etc.), occupancy rates, discharges, inpatient and discharge days, and average length of stay

during this time period. These statistics are included in Table 2, located in the appendix. **Please note that Capitol closed in 2001, resulting in a 19.9% decline in psychiatric beds for PD 15 and significantly impacting PD 15's behavioral health system.** The information listed below illustrates the tightening psychiatric bed supply in PD 15 during the past few years.

1) The occupancy rate of licensed beds in PD 15 increased 16.4% over the three year period. VCUHS experienced the largest increase in licensed bed occupancy rate from 2000 to 2002.
2) The overall average occupancy rate of staffed beds in 2002 for PD 15 was 83.7%, which indicates limited excess capacity.
3) The number of discharges from PD 15's psych beds decreased by 3.0% during the three year period, reflecting the loss of the 62 beds at Capitol and the resulting loss of bed capacity in PD 15. As a result of Capitol's closure:
    - VCUHS experienced the largest increase in discharges (47.8%)
    - Bon Secours St. Mary's had the smallest increase in discharges (4.3%).
4) While PD 15's total inpatient days declined by 6.9%, VCUHS experienced the largest increase in inpatient days (71.7%).
5) The average length of stay decreased by 3.7% during the three year period, with Chippenham having the largest decrease (10.1%).

When reviewing statistics in Table 2 (attached in appendix) describing availability of inpatient behavioral health treatment from facilities, two things need to be kept in mind. First, average occupancy rates can be misleading. That is, just because a facility has an average 75% occupancy rate of licensed beds, it may not be capable of admitting additional patients when the need arises on a specific day. Second, when psychiatric patients are admitted, the patient's gender, acuity, and diagnosis must be considered in making a bed assignment. Moreover, trained staff must be available to care for patients in order for a licensed bed to be available. Thus, licensed bed capacity does not necessarily mean that an available or an appropriate bed exists for a particular patient.

Comparison of use rates provides one method of analyzing differences between population groups. As shown in Table 3 (attached in appendix), PD 15's residents had the second highest number of psychiatric discharges per 1,000 population of any planning district in the State. In fact, at 12.44 discharges per 1,000 population, **PD 15's use rate is one and a half times greater than the State's overall rate.** PD 19 has the highest relative number of discharges at 18.15 per 1,000 population.

PD 15's acute care inpatient psychiatric use rate per 1,000 population, based on facility utilization (not specific to PD 15 residents), was 11.61 in 2001 (representing 10,222 discharges), almost 16% lower than PD 19's facilities' psychiatric use rate (13.45 per 1,000 population). As shown in Table 4 (attached in appendix), the inpatient psychiatric use rate for PD 15's facilities peaked in 1994 and again in 2000. In response to the growth of managed care, PD 15's use rate dropped 1.1% from 1994 to 2001 while PD 19's decreased 2.1% from the same period, even though it was considerably larger to begin with. This may reflect fewer patients with managed care and/or private insurance coverage, relatively fewer available community-based support services and more inpatient bed availability (compared to other geographical areas), greater

acuity levels of mental illness, or a number of other factors. In summary, **PD 15's facilities' use rate is 15.8% lower than PD 19's, but 46.2% higher than the State's rate.**

In 2001, the top three APRDRGs for PD 15 residents with a psychiatric admission, with the percentage of patients in parentheses, were: psychoses (29.7%); schizophrenia (25.1%); and bipolar disorders (12.7%). The top discharge placements in 2001 for PD 15 were home (85.4%), left against medical advice (5.0%), and transferred to another institution (4.4%).

EMERGENCY DEPARTMENT BEHAVIORAL HEALTH VISITS

In addition to reviewing use rates, the percentage of emergency visits for behavioral health diagnoses was reviewed. The emergency department sometimes serves as a point of entry for psychiatric care for those without any health insurance or without a medical home or community-based point of care. The average percentage of emergency department behavioral health visits compared to the total number of emergency department visits in PD 15 from 1995 to 2002 was 4.6% versus 3.4% for Health Planning Region (HPR) IV for the same time period. **When each year is reviewed individually, PD 15's percentage of behavioral health emergency department visits compared to HPR IV's percentage of behavioral health emergency department visits is consistently higher for all years.** The increase in the 2001 PD 15 percentage, which is sustained in 2002, is possibly due to the closure of Capitol Medical Center's psychiatric bed and the subsequent stress the closure placed on all the inpatient services in the region. It appears that PD 15's hospital emergency departments are utilized heavily for behavioral health treatment (Table 5 attached in appendix). A recognized limitation of the data relates to the data reporting; that is, each facility classifies and reports the visits by type, which may vary by facility.

COMMUNITY-BASED HEALTH CENTER AND HOMELESS PROVIDER CLIENTS

Of the 161 (32.5%) persons from the Behavioral Health Task Force study with a diagnosed mental health disorder, the majority (75.8%, n=122) received treatment within the past six months. The top three treatments for mental health disorders were medication only (30.3%, n=37), a combination of therapeutic counseling and medication (27.9%, n=34), and therapeutic counseling only (9.8%, n=12).

INPATIENT PSYCHIATRIC READMISSIONS

Treating people with behavioral health disorders in an inpatient setting is expensive compared to community-based support services treatment in a community setting. The Task Force evaluated hospitalization data for behavioral health diagnoses in PD 15 to identify the characteristics of patients admitted.

The Task Force focused on the inpatient psychiatric readmission rate for PD 15's population in private inpatient facilities, comparing it to Virginia's private facilities' readmission rate as a whole. In this report, the rate of readmissions is defined as the number of times during a year that a patient returns to a hospital for inpatient behavioral health treatment. It should be noted that a certain level of readmissions are expected due to the episodic nature of behavioral health

disorders. For common chronic medical conditions, multiple admissions each year would be considered poor treatment. **The Task Force concluded that the readmission of one-third of the psychiatric patients in PD 15 within 90 days of discharge is excessive and indicates a systemic problem that should be addressed.**

In addition, this high readmission rate indicates that the acute care hospitals are serving as primary care givers for behavioral health patients. Analysis of the readmission rates can reveal which groups of patients, based on their diagnoses and/or other characteristics, repeatedly use inpatient services. Moreover, this analysis may clarify potential problem areas such as limited community resources to manage discharged patients and/or poor access to or compliance with prescribed medications. These diagnoses and/or other characteristics should be reviewed to determine if alternative services could better meet these patients' treatment needs.

Virginia's inpatient psychiatric readmission rate was compared with PD 15. Two time frames were selected to calculate the readmission rate: within 30 days of discharge and within 90 days of discharge. **The 30 day and 90 day readmission rate percentages for PD 15 residents are significantly higher than the State's rate for 2001.** The following chart compares the readmission rate within 30 days and within 90 days for the State and for PD 15 for 2001:

Readmission Percentage by State and Planning District 15

Time Period	State	PD 15
Readmission within 30 days	15.9%	20.3%
Readmission within 90 days	26.4%	33.5%

Source: Virginia Health Information (VHI)

The data were categorized into four age groups: 0-18; 19-39; 40-64; and 65 years and older. **In all age groups except the 0-18 age group, PD 15's readmission rates for both the 30 and the 90-day time periods are higher than the State's.** The difference between the State and PD 15 is noteworthy for the other three age groups, especially for the 90 day readmission rates for these age groups (Table 6 attached in appendix). Moreover, the overall average length of stay did not seem to be related to the differences in readmission between PD 15 and the State. However, the average length of stay for the 0-18 age group is higher for Virginia than PD 15, while the average length of stay for the 65+ age group is higher for PD 15 than for Virginia.

This analysis was expanded to review the readmission rate for all of Virginia's 21 planning districts for 2001 (Table 3 attached in appendix). The five planning districts with the highest readmission percentages within 90 days (based on their residents' inpatient utilization) are shown in the chart below.

Psychiatric Readmissions by Planning District

Planning District	Area	Readmission Percent	Discharges per 1,000
Planning District 19	Tri-Cities	33.8%	18.2
Planning District 15	Richmond	33.1%	12.4
Planning District 10	Charlottesville	29.3%	8.8
Planning District 01	Norton	29.0%	5.8
Planning District 06	Staunton/Harrisonburg	28.4%	8.3

Source: VHI, US Census 2001 Population Projections

The 90-day readmission percentages in 2001 for the PD 15 facilities are shown below. The 90-day readmission percentage in 2001 for PD 15 was 32.9%. Bon Secours Richmond Community Hospital is the only facility that is above PD 15's readmission percentage.

Facility	Readmissions within 90 days (%)
Chippenham	29.6%
Bon Secours Richmond Community	40.5%
Bon Secours St. Mary's	30.1%
VCUHS	29.0%

Source: VHI

CHARACTERISTICS OF PD 15 READMISSIONS

Specific readmissions data were reviewed in more detail for PD 15. The following sections are contained in this review: the all patient refined diagnosis related groups (APRDRGs), the principal diagnoses, payer, and physicians.

READMISSIONS BY APRDRG

The APRDRG categorizes related diagnoses for all patients into various groups. Readmission rates for PD 15 and Virginia by the APRDRG were calculated. The table below depicts the top three APRDRGs, ranked by PD 15's number of readmissions within 90 days. **These three APRDRGs account for approximately 75% of the readmissions within both 30 days and 90 days for PD 15** (Table 7 attached in appendix). The APRDRG with the greatest number of readmissions in PD 15 was schizophrenia while psychoses is the top APRDRG for Virginia. Psychoses is a catch all category and can mean many different things. Since the diagnoses of psychoses is fairly broad, the patients' specific behavioral health needs may not be as well defined. Task Force participants noted that patients in PD 15 are admitted with clear histories and appear to receive more specific, well-defined diagnoses, which may account for the difference in rates between PD 15 and the State.

Psychiatric Readmissions by APRDRG

	READMISSIONS WITHIN 30 DAYS				READMISSIONS WITHIN 90 DAYS			
	Number		Percent		Number		Percent	
	PD 15	VA	**PD 15**	VA	**PD 15**	VA	**PD 15**	VA
APRDRG								
Schizophrenia	**877**	2279	**32.0%**	23.6%	**1357**	3655	**49.5%**	37.9%
Psychoses	**544**	2529	**16.7%**	14.0%	**904**	4245	**27.8%**	23.4%
Bipolar disorder	**272**	1605	**19.5%**	17.0%	**445**	2555	**32.0%**	27.1%

Source: VHI

READMISSIONS BY PRINCIPAL DIAGNOSIS

The principal diagnosis refers to the primary clinical reason for a patient's hospital admission and is more detailed than the APRDRGs. **Eleven principal diagnoses account for approximately 62.4% of the total number of readmissions within 90 days. For these principal diagnoses, PD 15's 30 and 90 readmission rate percentages are consistently higher than the State's** (Table 8 attached in appendix). The chart below shows the readmission rate percentages for these diagnoses:

Psychiatric Readmissions by Principal Diagnosis

	Readmissions within 30 days				Readmissions within 90 days			
	Number		Percent		Number		Percent	
	PD 15	**VA**	**PD 15**	**VA**	**PD 15**	**VA**	**PD 15**	**VA**
Principal Diagnosis								
Schizoaffective-unspecified	**467**	1180	**35.0%**	27.0%	**724**	1,893	**54.2%**	43.2%
Paranoid schizo-unspec	**136**	318	**26.4%**	20.8%	**217**	504	**42.1%**	33.0%
Depressive psychoses-unspec	**127**	314	**14.4%**	12.2%	**217**	547	**24.6%**	21.2%
Bipolar affective nos	**101**	299	**20.0%**	17.7%	**172**	487	**34.1%**	28.9%
Depressive disorder nec	**105**	383	**15.2%**	11.9%	**166**	619	**24.1%**	19.2%
Recurrent depr psychoses-unspec	**100**	317	**18.4%**	14.4%	**161**	550	**29.5%**	25.0%
Psychoses nos	**96**	296	**19.4%**	13.2%	**151**	501	**30.6%**	22.4%

Source: VHI

In summary, it appears that the needs and treatment of patients with schizophrenia, bipolar disorders, and psychoses should be further analyzed since patients with these diagnoses have more readmissions than patients with other behavioral health related diagnoses. Nevertheless, as previously noted, some readmissions are expected for these populations due to the episodic nature of these illnesses.

READMISSIONS BY PAYER

Historically, VHI's patient level payer data, with the exception of Medicare, has not been totally reliable; thus, this caveat needs to be recognized when analyzing payer data. The top seven payer categories in 2001 ranked on PD 15's volume of 90 day readmissions are shown in the table below. **When the percentage of readmission within 90 days for PD 15 is compared with the corresponding percentage of all psychiatric discharges for PD 15, all seven payer categories are significantly higher**, with unknown, Medicaid, self pay, HMO/PPO unspecified, and Medicare showing the largest differences.

Psychiatric Discharges by Payer

	All Pysch Discharges Percent		Readmissions within 30 days			Readmissions within 90 days		
			Number	Percent		Number	Percent	
	PD 15	VA	PD 15	PD 15	VA	PD 15	PD 15	VA
Payer								
Medicare	27.6%	24.3%	814	27.0%	20.7%	1303	43.2%	34.6%
Medicaid	12.6%	12.7%	346	25.1%	19.1%	557	40.5%	31.8%
Other Commercial	14.7%	15.3%	223	13.9%	13.0%	397	24.7%	21.4%
Self Pay	9.1%	6.4%	190	19.2%	14.7%	308	31.1%	23.7%
Trigon/BCBS	9.7%	9.4%	123	11.6%	12.8%	220	20.7%	21.1%
Unknown	4.7%	1.5%	124	24.4%	20.4%	192	37.7%	32.3%
HMO/PPO-unspecified	6.2%	4.7%	90	13.2%	12.8%	169	24.8%	23.2%

Source: VHI

Of note, when PD 15's 90 day readmission percentage is compared to the State's 90 day readmission percentage, Medicare and Medicaid are about one fourth higher than the State's; other commercial and unknown are about one fifth higher than the State's; and self pay is about a third higher than the State's (Table 9 attached in appendix). Differences by payment source may indicate problems with provider panel access or care management. Please note that caution should be taken when drawing conclusions about payers with relatively small discharge volumes.

READMISSIONS BY PHYSICIANS

Approximately 400 physicians discharged patients with behavioral health related diagnoses from hospitals in PD 15. **Twenty-two of these 400 physicians (or 5.4%) accounted for approximately 80% of the patients readmitted within 30 as well as within 90 days** (Table 10 attached in appendix).

The Task Force noted that some readmissions are expected because of the nature of mental illness while others are likely to be a consequence of system failure. For example, several Task Force members stated that certain physicians work more in the inpatient setting than others while some physicians work exclusively with outpatients.

PD 15 ADMISSIONS FREQUENCY

The Task Force further analyzed the readmissions data by frequency of discharges. Each patient was counted only once and placed in the category corresponding to the number of discharges he/she had in 2001. Detailed analyses for each patient category is provided for the following identifiers: age, gender, race, APRDRGs, principal diagnoses, and payer.

The following table shows the readmission rates by the frequency of patient discharges. **Compared to Virginia's percentages, PD 15 has a higher percentage of patients with two, three, or four or more discharges.** The average number of discharges per patient in 2001 for Virginia was 1.39, whereas for PD 15, it was 1.54, or 10.8% higher than Virginia's average.

	Planning District 15		Virginia	
Annual Discharges	Number	Percent	Number	Percent
1	5,033	72.9%	30,880	77.5%
2	1,074	15.6%	5,719	14.4%
3 or more	798	11.6%	3,241	8.1%
Total	**6,905**	**100.0%**	**39,840**	**100.0%**

Source: VHI

ADMISSION FREQUENCY BY AGE

In all four age groups, when PD 15 is compared to Virginia, **PD 15 has a slightly higher percentage of patients with two admissions (particularly higher for the 65+ age group) and a significantly higher percentage of patients with three or more admissions, especially for all age groups 19 and older.** In addition, for both PD 15 and Virginia, the 0-18 and 65+ age groups generally have longer length of stays than the 19-39 and 40-64 age groups.

	Planning District 15			Virginia		
Age Group	**1 Adm.**	**2 Adm.**	**3+ Adm.**	**1 Adm.**	**2 Adm.**	**3+ Adm.**
0-18	79.5%	13.9%	6.6%	80.7%	13.8%	5.5%
19-39	69.5%	16.2%	14.3%	75.1%	14.6%	10.3%
40-64	67.2%	16.9%	15.9%	72.5%	16.4%	11.1%
65+	74.8%	15.8%	9.4%	81.1%	13.2%	5.7%

Source: VHI

ADMISSION FREQUENCY BY GENDER

Compared to Virginia, all patients in PD 15 had a higher percentage of two or more admissions. Males in PD 15 have a higher percentage of two or more admissions than females in PD 15. In addition, females had longer average lengths of stay than males for all but those with only one admission.

	Planning District 15			Virginia		
	1 Adm.	2 Adm.	3+ Adm.	1 Adm.	2 Adm.	3+ Adm.
Male	69.8%	16.5%	13.7%	75.6%	14.9%	9.5%
Female	71.3%	15.8%	12.9%	75.7%	15.1%	9.2%

Source: VHI

ADMISSION FREQUENCY BY RACE

For both PD 15 and Virginia, whites had the highest percentage of only one admission, the other races had the highest category for two admissions, and blacks had the highest percentage of three or more admissions.

When comparing races in PD 15 and Virginia, whites in PD 15 had a higher percentage with two or more admissions. Blacks in PD 15 had a lower percentage with only one or two admissions and a higher percentage for three or more admissions. Therefore, **while readmissions are more common for minorities overall, PD 15 has higher readmission rates across all racial groups, alluding to systemic problems that cannot be linked solely to disparities in population groups.**

	Planning District 15			Virginia		
	1 Adm.	2 Adm.	3+ Adm.	1 Adm.	2 Adm.	3+ Adm.
White	72.0%	16.0%	12.0%	76.3%	14.8%	8.9%
Black	69.7%	14.9%	15.4%	73.6%	15.3%	11.1%
Other	65.8%	20.6%	13.6%	75.9%	15.5%	8.6%

Source: VHI

ADMISSION FREQUENCY BY APRDRG

Five APRDRGs represent the majority of patients in both PD 15 and in Virginia. PD 15's percentage for those with one admission is lower than Virginia's for all five APRDRGs. Moreover, **PD 15's percentages for the second admission and three or more admissions for all of these five APRDRGs are always higher than Virginia's.** Of note, PD 15's percentage of patients with three or more admissions is generally at least 32% higher than Virginia's for each of these APRDRGs. Therefore, **the higher readmission rate does not seem to be related to a particular diagnostic category.**

	Planning District 15			Virginia		
	1 Adm.	2 Adm.	3+ Adm.	1 Adm.	2 Adm.	3+ Adm.
Schizophrenia	49.3%	21.5%	29.2%	57.7%	21.2%	21.1%
Psychoses	75.6%	14.5%	9.9%	78.1%	14.4%	7.5%
Bipolar disorders	63.8%	19.3%	16.9%	69.1%	18.7%	12.2%
Depression	77.6%	14.3%	8.1%	83.0%	11.5%	5.5%
Alcohol abuse and dependency	74.4%	16.1%	9.5%	77.9%	13.6%	8.5%

Source: VHI

ADMISSION FREQUENCY BY PRINCIPAL DIAGNOSES

Five principal diagnoses comprise the majority of hospital admissions and readmissions for PD 15 and for Virginia. For PD 15, the percentage with only one admission is lower than Virginia's for all five principal diagnoses. **PD 15's percentage for two admissions is generally higher for four of the five principal diagnoses while PD 15's percentage for three or more admissions is higher than Virginia's for all five principal diagnoses.** Of note, PD 15's percentage of patients with three or more admissions is at least 25% higher than Virginia's for each of these principal diagnoses.

	Planning District 15			Virginia		
	1 Adm.	2 Adm.	3+ Adm.	1 Adm.	2 Adm.	3+ Adm.
Affective psychoses	72.6%	15.5%	11.9%	75.2%	15.8%	9.0%
Schizophrenic disorder	49.3%	21.5%	29.2%	57.7%	21.2%	21.1%
Depressive disorder (nec)	75.9%	14.8%	9.3%	81.0%	12.7%	6.3%
Other nonorganic psychoses	71.7%	17.4%	10.9%	75.9%	15.9%	8.2%
Alcohol dependence syndrome	71.5%	17.4%	11.1%	77.5%	13.6%	8.9%

Source: VHI

ADMISSION FREQUENCY BY PAYER

Virginia has a higher percentage of psychiatric patients with only one admission than PD 15 in all but one category (commercial). For the two admissions category, PD 15 has a higher percentage for four of the six payer categories. (Medicaid and commercial payers have a lower percentage than the corresponding payer percentage for Virginia). For the three or more admissions category, PD 15 has a higher percentage for all payers than Virginia does.

For both PD 15 and Virginia, Medicare and Medicaid generally have longer average lengths of stay than the remaining payer categories while self pay generally has the shortest average length of stay of all the payer categories.

	Planning District 15			Virginia		
	1 Adm.	2 Adm.	3+ Adm.	1 Adm.	2 Adm.	3+ Adm.
Medicare	63.3%	18.4%	18.3%	71.6%	16.7%	11.7%
Medicaid	64.1%	16.6%	19.3%	70.0%	16.9%	13.1%
Managed care	76.7%	14.9%	8.4%	79.2%	13.5%	7.3%
Commercial	76.9%	13.8%	9.3%	76.8%	14.5%	8.7%
Self pay	74.8%	13.6%	11.6%	80.4%	12.7%	6.9%
Other	65.7%	18.9%	15.4%	75.8%	15.6%	8.6%

Source: VHI

In summary, when PD 15 was compared to Virginia, it was noted that PD 15 generally had higher percentages of patients with two admissions and always had a higher percentage of patients with three or more admissions. This finding was true in all six of the categories of readmissions data reviewed. *High readmission levels can be attributed to a number of factors,*

including practice patterns of physicians (for example, more likely to admit, less available follow-up), lack of inpatient alternatives, limited case management after discharge, and/or lack of family or community support.

ANALYSIS OF PD 15 RESIDENTS WITH THREE OR MORE BEHAVIORAL HEALTH ADMISSIONS ANNUALLY

After the Task Force reviewed the readmissions data, the Task Force agreed to further analyze the readmission patterns of patients with three or more admissions during a year in PD 15, regardless of the facility's location, (representing 939 of 6,560 patients in 2001) to determine any common characteristics contributing to multiple readmissions. Through a logistic regression, the DMHMRSAS analyzed the readmissions data for those patients with three or more admissions. The analysis also included data from the year before and the year after the patients' admissions.

The following table shows characteristics of PD 15 patients with one to two admissions compared to those with three or more admissions.

Comparison of Patients Residing in PD 15
Based on Hospital Admissions in 2001

Characteristic	1 or 2 Admissions (n = 5,621)	3 or more Admissions (n = 939)
Average Age	40.8	41.2
Percent Male	46.6	48.6
Percent Nonwhite	43.3	49.3
Percent from Richmond	38.1	51.2
Percent with Schizophrenia	14.2	38.5
Percent with Psychosis	34.6	23.9
Percent with Bipolar Disorder	11.7	15.3
Average number of admissions – total (median)	1.19 (1)	4.65 (4)
Average admissions – PD15 residents (median)	1.18 (1)	4.21 (3)
Average charge per patient for all admissions	$8,055	$29,365
Median charge per patient for all admissions	$4,910	$22,736
Average charge per episode	$6,826	$6,973
Average LOS per 2001 discharged patient (median)	8.4 (5)	32.7 (24)
Percent admitted in 2000	20.6	57.3
Average number of admissions in 2000 (median)	0.4 (0)	2.1 (1)
Average LOS per 2000 discharged patient (median)	3.1 (0)	15.2 (4)
Percent admitted in 2002	19.4	53.0
Average number of admissions in 2002 (median)	0.3 (0)	1.7 (1)
Average LOS per 2002 discharged patient (median)	2.7 (0)	12.7 (2)
Percent with Medicare	23.6	34.2
Percent with Medicaid	9.4	14.8

Source: DMHMRSAS

Of note, over half of those with three or more admissions in 2001 also had been admitted either the year before or the year after. This same pattern holds true for patients who had three or more local hospital admissions for psychiatric care in 2000 and 2002.

PD 15 Patients with three or more admits by year	Percent admitted two years prior	Percent admitted one Year prior	Percent admitted one Year post	Percent admitted two Years post
2000			58%	38%
2001		57%	53%	
2002	40%	56%		

Source: DMHMRSAS

A logistic regression analysis was performed on the VHI database of PD 15's local psychiatric hospital admissions and the variable "three or more admissions in 2001." Controlling for age, sex, racial status, diagnoses, and prior year's local psychiatric hospital utilization, a statistically significant difference ($p < .001$) was found between those who had one or two admissions versus those with three or more. Age, race, and sex were not found to be significantly different.

In this analysis, the odds ratio was calculated. The odds ratio is a way of comparing whether the probability of a certain event (e.g., hospitalized three or more times) is the same for two groups. An odds ratio of one implies that the event is equally likely in both groups. An odds ratio greater than one implies that the event is more likely in the first group. In logistic regression analysis, the odds ratio tells us how many times the probability of one group membership (e.g., diagnosed with schizophrenia) is larger than the probability of the other group membership (e.g., not diagnosed with schizophrenia).

The strongest predictors of persons with three or more admissions were:

- **a diagnosis of schizophrenia (odds ratio of 2.48:1) or a diagnosis of bipolar disorder (odds ratio of 1.71:1),**
- **a prior year's hospital history (odds ratio of 1.78:1),**
- **a higher number of hospital admissions in the prior year (odds ratio of 1.40:1),**
- **living in Richmond, as opposed to the surrounding areas (odds ratio of 1.38:1).**

The following findings were noted from the regression analysis performed for the three year period:

Patients who also had admissions in the year prior (2000)

1. Patients who had admissions in both 2000 and 2001 (n= 1,694) were three times more likely to have a diagnosis of schizophrenia and to have had three or more admissions in 2001 ($p<.001$).
2. They were also twice as likely to have a diagnosis of bipolar disorder and to have been hospitalized in 2002 ($p<.001$).
3. They were also were 32% more likely to have Medicaid as their payer source ($p<.01$).

Patients who also had admissions in the year post (2002)

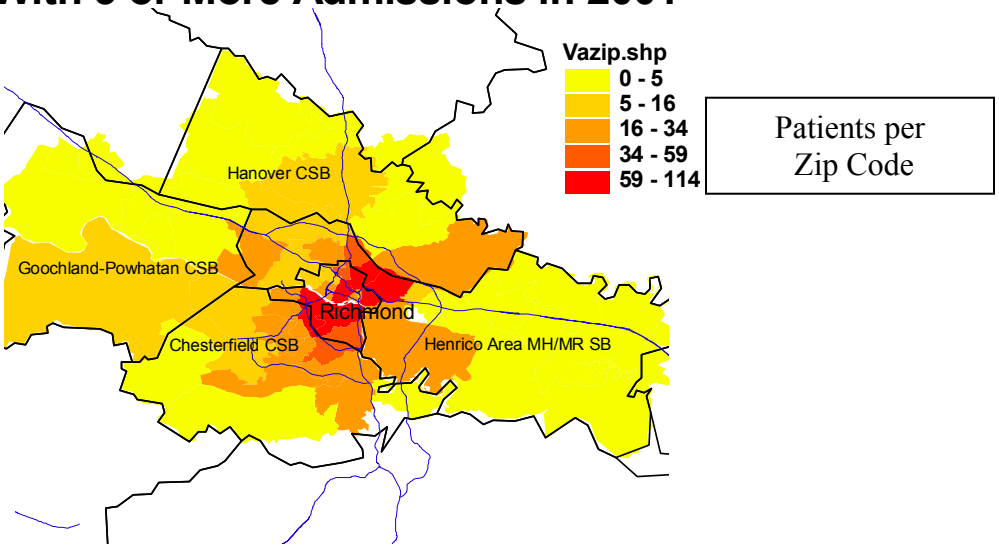
1. Patients who had admissions in both 2001 and 2002 (n=1,586) were three times as likely to be among the group of those with three or more admissions in 2001 (p<.001).
2. They were twice as likely to also have been hospitalized in 2000 (p<.001).
3. They were also 69% more likely to have a diagnosis of schizophrenia (p<.001).
4. They were also 42% more likely to have a diagnosis of bipolar disorder (p<.001).

Patients who also had admissions in the year prior (2000) and the year post (2002)

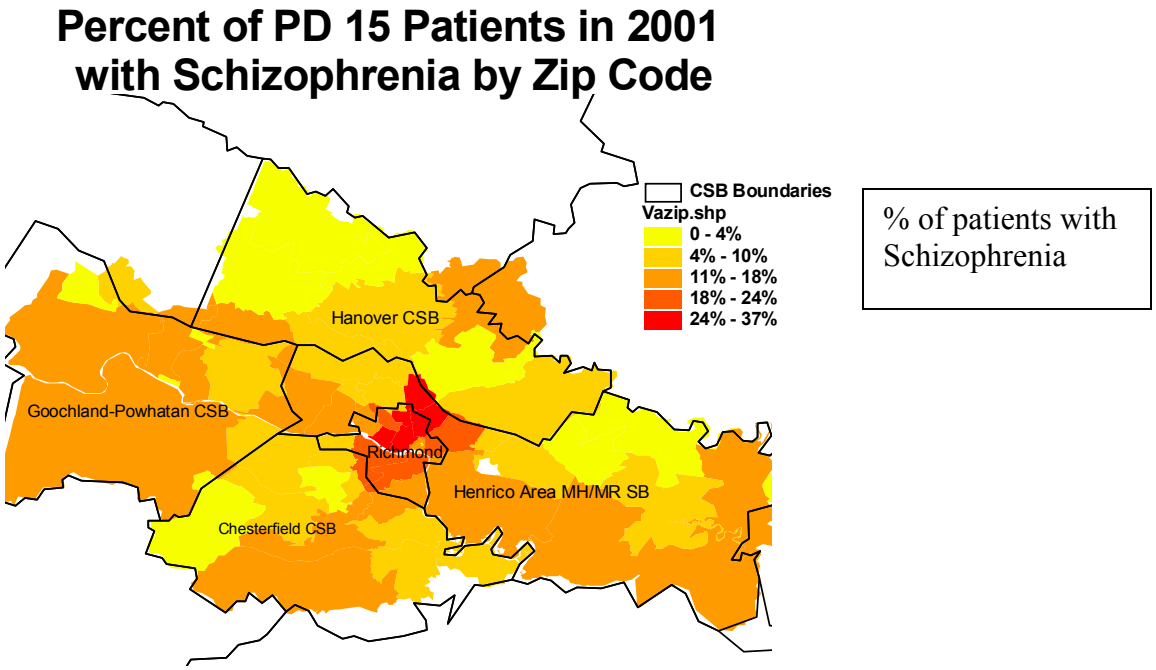
1. Patients who had admissions in all three years, 2000, 2001 and 2002 (n=714), were more than five times as likely to have had three or more admissions in 2001 (p<.001).
2. They were also three times more likely to have a diagnosis of schizophrenia (p<.001).
3. They were almost twice as likely to have a diagnosis of bipolar disorder (p<.001).

Data from this regression analysis was mapped. As the following maps show, there is an overlapping concentration in Richmond of individuals with repeated local psychiatric admissions and those diagnosed with schizophrenia.

Location by Zip Code of PD 15 Patients With 3 or More Admissions in 2001



Source: DMHMRSAS



Source: DMHMRSAS

POTENTIAL REASONS THAT THE FREQUENTLY ADMITTED POPULATION ARE NOT RECEIVING SERVICES

As the above analysis reveals, a significant number of patients use inpatient hospitals frequently for behavioral health treatment. The Task Force focused its attention on some of the potential reasons why these patients utilize inpatient care instead of other treatment options. In addition, the Task Force reviewed information on the current funding sources for behavioral health services.

LIMITED TREATMENT OPTIONS

SURVEY OF PSYCHIATRISTS IN PD 15

Since psychiatrists play a critical role in the treatment process, the Task Force believed it was important to obtain their input on behavioral health services in PD 15. Therefore, a survey of 36 physicians, both with high and low readmission rates, was conducted. This survey collected information about the services available for people needing frequent acute care hospitalizations for behavioral health, substance abuse, and/or dual diagnoses as well as the barriers to services and factors that contribute to acute care readmissions. Ten surveys were received, representing a 27.8% response rate, which is excellent for this type of survey method.

The main findings from this psychiatrist survey include the following:

1. The major contributing factors psychiatrists noted for multiple admissions include lack of alternatives to inpatient care; limited community services; poor follow-up compliance or difficulty obtaining follow-up care; problems with support systems; and patient substance abuse issues.
2. Psychiatrists primarily refer to the CSBs when their patients need community resources for mental health issues or substance abuse issues. Please note that the surveyed psychiatrists' practices may not adequately represent those caring for privately insured patients.
3. The top trends or changes relative to their patients' behavioral health needs include CSB issues, increase in substance abuse, and lack of state hospital beds/decrease in acute care hospital psychiatric beds.
4. The top two barriers to care/services for their patients are lack of funding/insurance and limited services.
5. The top three factors that would be most helpful to the psychiatrists in the treatment of patients with mental health and/or substance abuse would be additional services, timely CSB follow-up, and case management.

BEHAVIORAL HEALTH SURVEY

Of the 39 (24.2%) people with a current mental health diagnosis who did not receive treatment within the past six months, "refusal of treatment" (15.4%, n=6) and "no impairment" (10.3%, n=4) were the top two most commonly reported reasons for no treatment. "Not covered in treatment plan" (7.8%, n=3) and "substance abuse impeded ability to participate in treatment" (7.8%, n=3) also were reasons why clients did not seek or were unable to access treatment for their mental health diagnosis. For persons with substance abuse disorders, for the 91 (48.1%) people who had not received treatment in the first 6 months, the top three reasons were "refusal" (30.8%, n = 28), "problem resolved" (18.7%, n=17), and "lack of resources" (15.4%, n=14).

People receiving services at Richmond area community-based health centers and homeless services providers have significant behavioral health needs, but there is limited access to needed treatment. While 75.8% (n=122) of people with a *diagnosed* behavioral health disorder received treatment in the past six months, only half (51.9%) of the people with a diagnosed substance abuse problem received treatment in the past six months. It is important to note that two reasons why treatment was not sought or accessed were due to "patient non-compliance"/"refusal" and a "lack of resources."

The majority of participants in this study were between the age range of 30-49 years old (55.2%, n=274), and the majority of people with either a behavioral health disorder (37.7%, n=75) or a substance abuse problem (47.1%, n=98) were between the age range of 40-50 years old. In addressing the issue of treatment and community interventions, it is important to evaluate the community-based, outpatient behavioral health services available for middle aged adults.

ALTERNATIVES TO INPATIENT TREATMENT

From these findings of these two surveys, it appears that there is a lack of appropriate alternative community-based support services in the planning district, which contributes to the unusually high level of inpatient treatment. However, other treatment options exist for behavioral health disorders besides inpatient treatment. This section describes two widely reported successful models of appropriate alternative community-based support services provided by PD 15's CSBs, the HPR IV Acute Care Project and the Programs of Assertive Community Treatment (PACT), to help reduce inpatient utilization. In addition, brief descriptions of three alternatives to inpatient care - day treatment programs, respite programs, and residential treatment programs - are included.

HPR IV ACUTE CARE PROJECT

The HPR IV Acute Care Project has been in operation for approximately three years. The region's CSB/BHAs no longer use Central State Hospital for acute care admissions; these admissions now occur in the private sector hospitals. The pilot project's lengths of stay are approximately seven days and the readmission rate is low (4.6% are readmitted within 30 days in the Acute Care Project compared to 20.3% in PD 15).

The following two charts provide summary information from the HPR IV Acute Care Project for FY 2003. The first chart illustrates the breakdown of the number of patients admitted to local hospitals through a CSB in FY 2003. Please note that the number of clients admitted represents individuals who were prescreened by a local CSB. The reason for admission requires documented clinical necessity and demonstration of meeting commitment criteria.

Number of clients entering local hospitals through a HPR IV CSB	**755**
Admission Status	
Voluntary	**260 (34.4%)**
Temporary Detention Order (TDO)	**471 (62.4%)**
Other	**24 (3.2%)**
Reason for admission in addition to a serious mental illness*	
Suicidal	**313 (41.5%)**
Dangerousness	**250 (33.1%)**
Intensity	**403 (53.4%)**
Unable to care for self	**173 (22.9%)**
Open CSB Case (self-reported as receiving services at CSB)	**471 (62.4%)**
Recidivism less than 30 days	**35 (4.6%)**

Source: DMHMRSAS

*Clients can fall into multiple categories. The definitions for the admissions criteria are:
Suicidal – behavior reflecting suicide attempt or intent with a plan
Dangerousness – imminent danger to self and/or others is apparent
Intensity – clinical manifestation, symptoms, or complications so sever as to preclude assessment and treatment in less intensive setting and requiring 24-hour nursing, medical assessment, intervention, and monitoring. Less restrictive or less intense approaches have not effective.
Unable to care for self – impairment exists to degree that an individual is unable to care for himself/herself and, therefore, is an imminent danger to himself/herself.

The following chart shows the appointments following local hospitalization of individuals qualified for the project's funds in FY 2003. Please note that the number of discharged clients is smaller than the number of admitted clients as some people will have insurance and not receive funds through the HPR IV Project by the time of discharge. Funding does not exclude the client from receiving case management services from the referring CSB. Of the clients discharged from local hospitals, 33 (4.8%) met transfer criteria and were transferred to Central State Hospital.

Number of clients discharged through project	**688**
Follow-up Appointments	
Consumers with follow-up appts. (overall)	**433 (62.9%)**
Consumers with follow-up appts. within 7 days	**349 (50.7%)**
Number of cases using more than 28 project days	**5 (0.7%)**
Number of cases using 15 to 27 project days	**35 (5.1%)**
Project Average length of stay	**5.9**
Maximum length of stay for project	**55**

Source: DMHMRSAS

PACT PROGRAM

PACTs are self contained clinical teams that assume responsibility for directly providing needed treatment, rehabilitation, and support services to identified clients with severe and persistent mental illness. PACT teams minimally refer clients to outside service providers and they provide services on a long-term care basis with a continuity of caregivers over time. Each PACT team has no more than ten clients to one clinical staff member. Thirteen PACTs currently serve 1,027 clients at twelve CSB's in Virginia. In PD 15, Richmond Behavioral Health Authority (BHA) has one PACT team (serving 92 clients) and Henrico CSB has two PACT teams (one team serves 95 and the other serves 82). These three PACT teams serve a total of 269 clients. Funding sources for Virginia's PACT teams include state general funds (76%), Medicaid (16%), federal block grants (7%), and fees (1%).

To assess the program's impact, PACT consumers' hospitalization rates before and after their involvement with the PACT program were compared in 2002. The following chart shows the positive impact the PACT programs have on reducing inpatient utilization.

Comparison of Pre-PACT and Post-PACT Programs

	Pre-PACT	Post-PACT	% Change
State hospital admissions	936	355	-62.1%
State hospital inpatient days	129,775	25,549	-80.3%

Source: DMHMRSAS

In 2002, the annual state hospital cost-offset due to the PACT services was $16,700 per consumer. The average annual cost per PACT consumer was $10,400. Therefore, the PACT program represents an annual savings of $6,300 per PACT consumer.

DAY TREATMENT PROGRAMS

Day treatment programs, also known as partial hospitalization programs, provide structure, monitoring and support for individuals when they are at risk of acute hospitalization or when they are leaving an acute setting and need transitional support as they return to the community. In a day treatment program, patients are educated about their medications, coping skills, symptom recognition, management of mood, and other activities that will enhance their level of functioning and independence.

Day treatment programs are another option to acute care and are less expensive than inpatient treatment. Because the patient remains in the community/home setting, he/she can put into practice the information and lessons acquired during the day.

RESPITE PROGRAMS FOR HOMELESS

When a behavioral health patient who is homeless is discharged from a hospital, few housing alternatives are available for the person. To help expand the options for homeless patients, short-term medical and mental health respite programs are being developed. An example of such a program is the Greater Richmond Homeless Respite (GRHR), established in 1999. GRHR's top two priorities are to stabilize the clients' medical and mental health conditions and to place them into a transitional or permanent housing situation upon discharge from the respite program. GRHR provides intensive case management for a client while he/she is in the program. In addition, the client continues to receive his/her medical and mental health treatment from other homeless agencies.

RESIDENTIAL TREATMENT PROGRAMS

Residential treatment programs provide transitional housing and psychosocial rehabilitation for adults with chronic mental health disorders. An example of such a program is Gateway Homes of Greater Richmond, Inc., which has been in operation since 1983. Gateway's program consists of a three phase transitional living program – 1) licensed 24-hour assisted living facility; 2) supported apartment living on campus; and 3) supported off-campus community living. Gateway provides such services as a day treatment program, individual therapy and case management, medication management, transportation to and from appointments, and individualized treatment planning. The program is designed to motivate individuals suffering from schizophrenia, bipolar disorders, and depression to reach their fullest potential, with an ultimate goal of living independently, beyond a psychiatric setting.

FUNDING FOR BEHAVIORAL HEALTH SERVICES

OVERALL STATE FUNDING

To increase funding for existing behavioral health services or provide funding for new behavioral health services, additional resources are required. The following information on mental health spending in Virginia and for the CSBs/BHA was provided by the DMHMRSAS.

1. Measured against relative wealth, Virginia spends roughly 26% less on public mental health care than the national average and most of its neighboring states.
2. For every $100 in Virginia's per capita personal income, roughly twenty cents is spent on public mental health. The national average is twenty-seven cents for every $100 in per capita personal income.
3. In 1981, Virginia's mental health budget was 8% below the national average. In 2001, it was 23.5% below the national average.
4. Virginia's 2001 State Behavioral Health Authority's mental health per capita expenditure was $39 for state hospitals and $23 for community, for a total of $62. The national average was only $26 for state hospitals, but $53 for community, for a total of $79. Thus, Virginia's mental health budget is under the national average by $17 per capita, but its communities receive less than half the national average for mental health care.

CSB/BHA FUNDING

The following chart shows the FY 2004's per capita amount CSBs/BHA in PD 15 received from each of its localities compared to the region and the State. The range of funding for the eight localities in PD 15 varies greatly - $6.82 per capita for New Kent County to $41.31 per capita in Henrico County. Of the eight CSB/BHAs in HPR IV, the range of the per capita amount is from $2.43 (Southside CSB) to $38.99 (Henrico Area CSB). Taken as a group, PD 15's CSB/BHA receive the most funding, based on the per capita amount, than the CSB/BHAs in the other three planning districts in HPR IV.

The money received from the cities/counties for CSB/BHA activities usually comes with a set of local expectations regarding its use. Thus, it cannot be assumed that all the CSB/BHA funding will be used for the seriously mentally ill population.

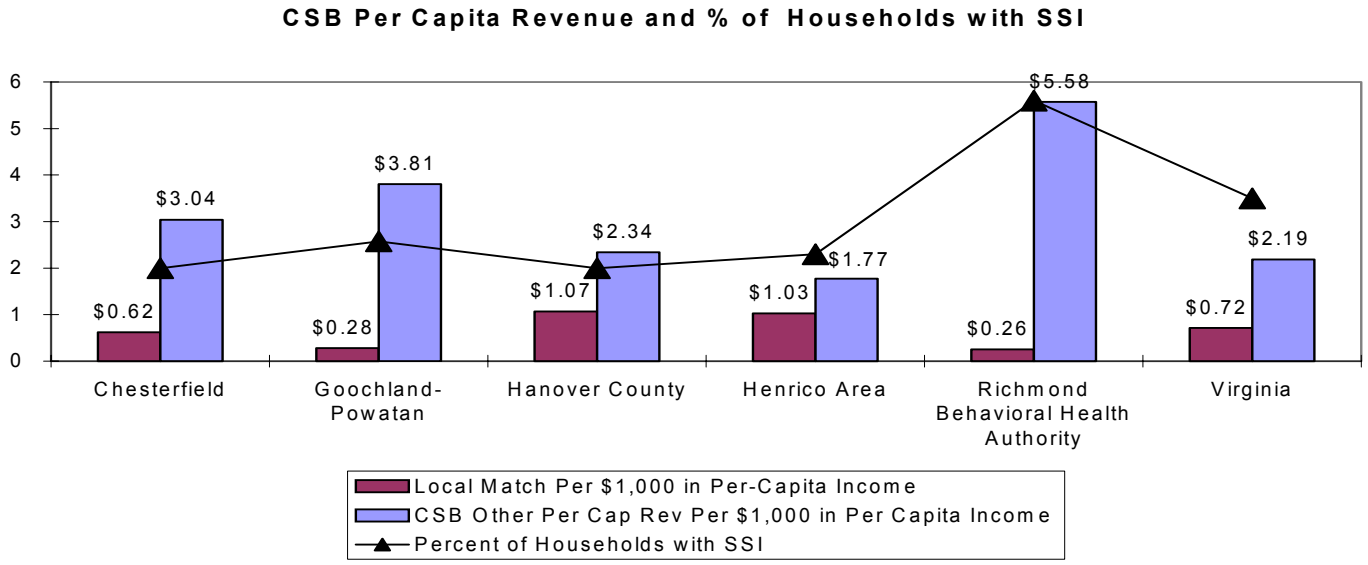
FY 2004 Per Capita Contributions for CSB/BHA Activities

Locality	Per Capita Amount
Chesterfield CSB	$24.75
Goochland/Powhatan CSB	$10.93
Goochland	$12.72
Powhatan	$9.58
Hanover CSB	$37.35
Henrico Area CSB	$38.99
Charles City	$13.86
Henrico	$41.31
New Kent	$6.82
Richmond BHA	$7.33
PD 15 CSB/BHAs Total	$26.05
HPR IV	$19.40
Virginia	$24.59

Source: DMHMRSAS' Office of Community Contracting

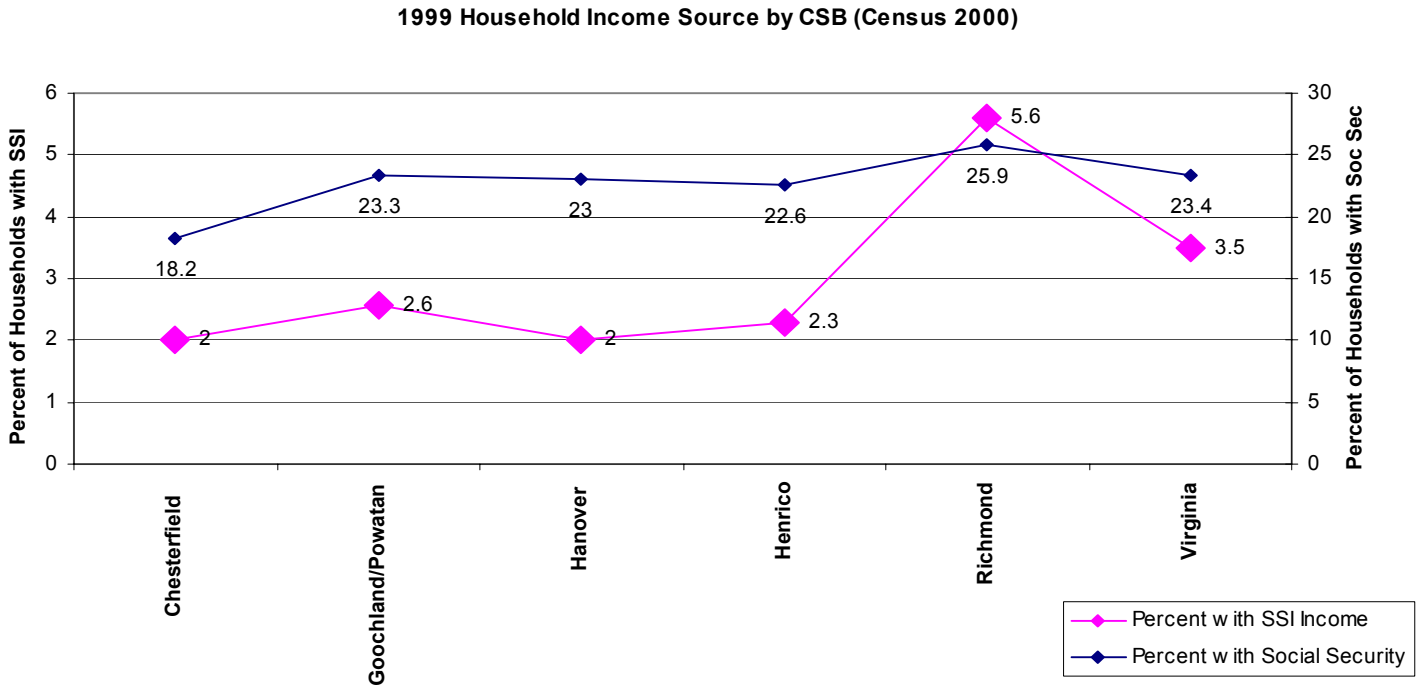
Additional information provided by the DMHMRSAS on the funding to CSBs/BHA is listed below:

1. In FY 2002, the four sources of PD 15's CSB/BHA's revenue were: 1) Medicaid (27%); 2) local funds (25%); 3) DMHMRSAS state funds (24%); and 4) federal, fees, and other (24%).
2. Between 1997 and 2001, Medicaid for mental retardation waiver grew dramatically, mostly at the Chesterfield CSB.
3. An estimated 4.9% of the adult population in Virginia has serious mental illnesses (mostly schizophrenia, bipolar illnesses, and major depression). Approximately 18% of these people with serious mental illnesses are served by CSBs in Virginia (17% of PD 15's seriously mental ill population are served by CSB/BHAs in PD 15).
4. Compared to other CSB/BHAs in PD 15, Richmond served a significantly higher proportion (29%) of the seriously mentally ill population in FY 2002.
5. In addition, compared to the other CSB/BHAs in PD 15, Richmond has an unusually high percentage of residents receiving SSI.
6. State Funds and Medicaid especially help provide targeted services in lower income communities like Richmond (see chart below).



Source: DMHMRSAS

Of note, Richmond has a higher public behavioral health service "penetration rate" (i.e. the 29% percent of SMI prevalence served). However, it also has an unusually high percentage of residents receiving SSI (see chart below), indicating the presence of a greater number of low income disabled residents.



Source: DMHMRSAS

ACUTE CARE HOSPITAL EXPENDITURES

In reviewing funding for behavioral health services, the charges of patients with three or more admissions were reviewed (shown in the chart below). While patients with three or more admissions in 2001 comprised only 14% of the total number hospitalized, the charges associated with their care equaled 37%, which represents $27.6 million of the $75.2 million in total reported charges. Moreover, at least half of this $27.6 million, or approximately $13.8 million, represent costs. The table below shows these charges by major payer source. The findings from this charge analysis present a potential opportunity to save limited mental health dollars by targeting certain populations frequently utilizing acute care hospitals. For example, $13.8 million could fund the equivalent of fourteen PACT teams.

PD 15 Psych Hospitalization Episodes and Charges by Payer Source	Average Length of Stay	Average Charge Per Episode	Total Episodes 2001	3 or More Patients' Episodes	3 or More Patients %	Total Charges	3 or More Patients Charges	3 or More Patients %
Medicare	9.47	$9,610.32	3,013	1,380	46%	$28,955,885	$12,000,310	41%
Medicaid	9.73	$7,780.86	1,376	672	49%	$10,706,461	$4,519,435	42%
Other Commercial	5.71	$5,715.79	1,606	433	27%	$9,179,565	$2,674,762	29%
Trigon/BC/BS	5.51	$5,908.33	1,062	227	21%	$6,274,648	$1,704,291	27%
Self Pay	3.66	$4,168.48	991	350	35%	$4,130,965	$1,498,989	36%
HMO/PPO-Unspecified	4.63	$5,008.28	681	152	22%	$3,410,636	$906,435	27%
Unknown	5.81	$6,042.63	509	201	39%	$3,075,699	$1,108,461	36%
Jail/Detention	5.85	$5,731.94	321	119	37%	$1,839,952	$717,671	39%
State Government	5.13	$5,038.03	296	134	45%	$1,491,257	$716,860	48%
Cigna	5.01	$5,829.48	234	49	21%	$1,364,098	$336,558	25%
Local Government	8.72	$7,197.62	169	61	36%	$1,216,397	$398,568	33%
BC/BS Out-of-State	4.83	$5,643.78	138	64	46%	$778,842	$350,739	45%
Subtotal			**10,396**	**3,842**	**37%**	**$72,424,405**	**$26,933,079**	**37%**
All other payers			539	113	21%	$2,795,503	$644,794	23%
TOTAL			**10,935**	**3,955**	**36%**	**$75,219,908**	**$27,577,873**	**37%**

Sources: VHI, DMHMRSAS

CONCLUSIONS

In summary, the Task Force concluded the following from its assessment of the behavioral health data and information:

1. The inpatient behavioral health utilization is unusually high in PD 15, partly because of a lack of community-based support services. Both the data reviewed and the surveys conducted support this conclusion.
2. From the data review, predictors for patients who have frequent inpatient readmissions were identified.

3. There are proven models for providing alternative community-based support services, some of which are modeled by CSBs, but they have limited funding and cannot treat all the patients who are referred to them.

RECOMMENDATIONS

Based on the data reviewed by and the consensus of the Task Force, the following is a list of recommendations for further action to address the conclusions identified by the Task Force.

1. Concentrate efforts and intervention on patients with schizophrenia and bipolar disorders, as patients with these diagnoses are more likely to have frequent and numerous readmissions. This effort would involve conducting retrospective audits of targeted patients with three or more admissions in a year, identifying any issues that may be contributing to the recurring hospitalizations and developing and testing appropriate interventions for the patients with these identified issues or characteristics.

2. Review available community-based behavioral health services and research evidence-based best practices in community-based programs that could be used as an alternative or deterrent to inpatient behavioral health programs.

3. Identify ways to support successful programs and fund potential alternative programs for inpatient behavioral health care. Some examples include:

    - Enhanced support and increased availability of programs such as the Region IV CSB/Richmond Behavioral Health Authority's Acute Care Project, the PACT teams, and respite programs for the homeless. This enhanced support also includes providing resources for additional community services, such as housing, health care, transportation, and job training, to help people remain in the community.
    - Research grant opportunities to fund pilot projects and/or expansion of successful programs in order to continue collaborative community-based planning for behavioral health services.
    - Work with the major payer sources to seek financing for cost-effective community-based alternatives to recurrent hospital care.
    - Work with REACH's Pharmaceutical Task Force to expand availability of psychotropic medication to selected patients.

4. Increase the community's awareness level of behavioral health issues

    - Work with primary care physicians to educate them on behavioral health issues, with possible implementation of new diagnostic technology (e.g. risk assessment screening tools).

- Develop an awareness campaign on behavioral health to include such items as identifying symptoms of the disease, locating treatment, and reducing the stigma of seeking treatment.

In conclusion, this project illustrates an example of a public and private collaboration to address a major community health issue. This type of collaboration ensures effective coordination and utilization of resources and efforts. This planning process, as well as the resulting initiatives originated from the process, can be replicated in other planning districts. It is expected that the Task Force will be reconvened at least semiannually to review the status of behavioral health initiatives and progress toward reducing inpatient behavioral health.

Non-State Acute Behavioral Health Providers & Community Svcs. Boards' Main & Satellite Offices in PD15

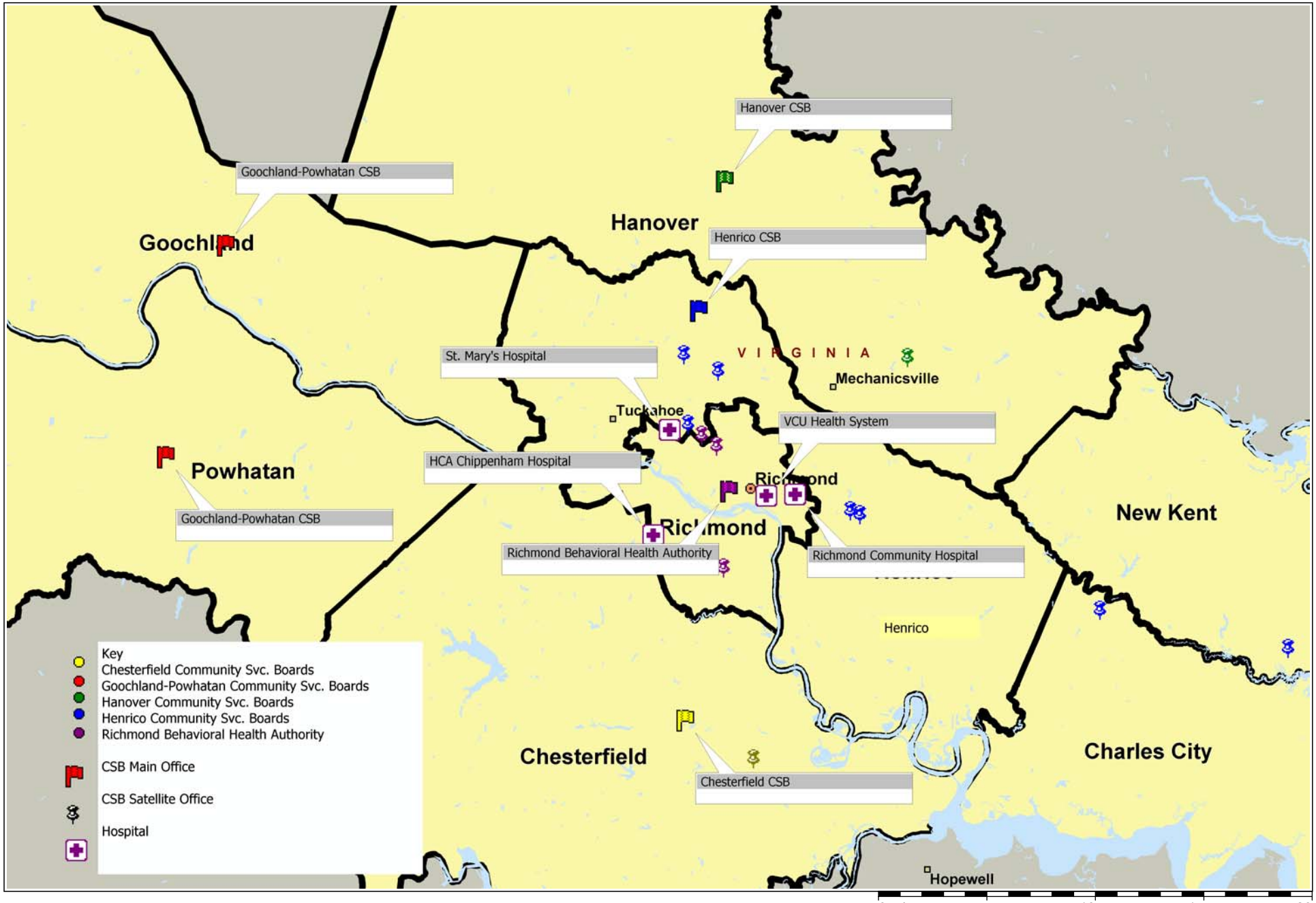


Table 1: Prevalence of Selected Mental Disorders among Adults during a One Year Period

			----------PD 15 Adult Population----------			
	Number in U.S. with disorder (in millions)	**% of U.S.adult pop.**	**18+** 647,419	**Estimated % with Disorder**	**18-54** 480,019	**Estimated % with Disorder**
Depressive Disorders*	18.8	9.5%		61,505		
Major Depressive Disorder	9.9	5.0%		32,371		
Dysthymic Disorder**	10.9	5.4%		34,961		
Bipolar Disorder	2.3	1.2%		7,769		
Schizophrenia*	2.2	1.1%		7,122		
Anxiety Disorders***	19.1	13.3%				63,843
Panic Disorder	2.4	1.7%				8,160
Obsessive-Compulsive Disorder	3.3	2.3%				11,040
Post Traumatic Stress Disorder	5.2	3.6%				17,281
Generalized Anxiety Disorder	4.0	2.8%				13,441
Social Phobia	5.3	3.7%				17,761
Agoraphobia	3.2	2.2%				10,560
Special Phobia	6.3	4.4%				21,121

Note:
*-Adults defined as individuals 18 and older
**-Dysthymic disorder - during lifetime
***-Adults defined as individuals 18-54

An estimated 22.1% of Americans 18 and older (about 1 in 5 adults) suffer from a diagnosable mental disorder in a given year

Source: The National Institute of Mental Health, The Numbers Count: Mental Disorders in America, January 2001

Prepared by Central Virginia Health Planning Agency

Table 2: Selected Statistics for Private Psychiatric Beds in Planning District 15

	Licensed Beds				Staffed Beds				Occupancy Rate (licensed beds)				Occupancy Rate (staffed beds)			
	2000	2001	2002	% Change	2000	2001	2002	% Change	2000	2001	2002	% Change	2000	2001	2002	% Change
Capitol	62	0	0	-100.0%	62	0	0	-100.0%	75.7%	0.0%	0.0%	-100.0%	75.7%	0.0%	0.0%	-100.0%
Chippenham	113	113	113	0.0%	74	96	113	52.7%	81.4%	83.8%	82.1%	0.9%	124.3%	98.6%	82.1%	-33.9%
Richmond Community	36	36	36	0.0%	36	36	36	0.0%	56.0%	64.4%	85.6%	52.9%	56.0%	64.4%	85.6%	53.0%
St. Mary's	32	32	32	0.0%	30	30	32	6.7%	84.0%	84.2%	88.4%	5.2%	89.6%	89.8%	88.4%	-1.3%
VCUHS	68	68	68	0.0%	40	56	56	40.0%	39.9%	41.5%	68.5%	71.7%	67.8%	71.1%	83.1%	22.6%
Total	**311**	**249**	**249**	**-19.9%**	**242**	**218**	**237**	**-2.1%**	**68.5%**	**66.6%**	**79.7%**	**16.4%**	**88.0%**	**84.7%**	**83.7%**	**-4.9%**

	Discharges				Inpatient Days				Discharge Days				ALOS (based on discharge days)			
	2000	2001	2002	% Change	2000	2001	2002	% Change	2000	2001	2002	% Change	2000	2001	2002	% Change
Capitol	2,226	0	0	-100.0%	17,140	0	0	-100.0%	16,892	0	0	-100.0%	7.6	0	0	-100.0%
Chippenham	4,249	5,212	4,820	13.4%	33,560	34,552	33,861	0.9%	33,478	34,665	34,002	1.6%	7.9	6.7	7.1	-10.1%
Richmond Community*	1,096	1,277	1,601	46.1%	7,352	8,458	11,244	52.9%	7,352	8,458	11,244	52.9%	6.7	6.6	7.0	4.5%
St. Mary's*	1,513	1,571	1,578	4.3%	9,810	9,835	10,326	5.3%	9,810	9,835	10,326	5.3%	6.5	6.3	6.5	0.0%
VCUHS	1,600	2,162	2,365	47.8%	9,897	14,541	16,991	71.7%	9,922	15,058	16,780	69.1%	6.2	7.0	7.1	14.5%
Total	**10,684**	**10,222**	**10,364**	**-3.0%**	**77,759**	**67,386**	**72,422**	**-6.9%**	**77,454**	**68,016**	**72,352**	**-6.6%**	**7.2**	**6.7**	**7.0**	**-3.7%**

Note:
*Discharge days unavailable - inpatient days used
Occupancy rate uses inpatient days
ALOS uses discharge days

Sources: 1999-2001 Annual Licensure Survey; Virginia Health Information (VHI)

Prepared by Central Virginia Health Planning Agency

Table 3: Psychiatric Discharges for CY 2001 by Planning District

Health Planning District	District	2001 Population	Psychiatric Discharges	Discharges Per 1,000 population	Avg Length of Stay for Psychiatric Discharges	Average Charge for Psychiatric Discharges	90 Day Readmissions	90 Day Readmission Rate
1	LENOWISCO	90,644	527	5.81	4.83	$7,171	153	29.03%
2	CUMBERLAND PLATEAU	116,933	708	6.05	5.65	$7,482	177	25.00%
3	MOUNT ROGERS	190,061	1,008	5.30	5.99	$6,895	203	20.14%
4	NEW RIVER VALLEY	164,529	1,396	8.48	5.24	$6,609	305	21.85%
5	FIFTH	263,953	2,976	11.27	5.53	$7,127	694	23.32%
6	CENTRAL SHENANDOAH	260,501	2,166	8.31	6.41	$6,436	616	28.44%
7	LORD FAIRFAX	189,962	1,062	5.59	6.79	$6,361	196	18.46%
8	NORTHERN VIRGINIA	1,869,702	8,221	4.40	7.15	$9,061	1990	24.21%
9	RAPPAHANNOCK-RAPIDAN	140,219	879	6.27	6.62	$6,928	196	22.30%
10	THOMAS JEFFERSON	203,204	1,783	8.77	6.25	$5,972	522	29.28%
11	CENTRAL VIRGINIA	228,903	1,831	8.00	6.03	$5,873	393	21.46%
12	WEST PIEDMONT	249,698	2,081	8.33	5.13	$5,766	409	19.65%
13	SOUTHSIDE	87,691	672	7.66	5.18	$5,617	160	23.81%
14	PIEDMONT	97,295	683	7.02	7.12	$6,647	171	25.04%
15	RICHMOND REGIONAL	878,905	10,935	12.44	6.95	$6,879	3619	33.10%
16	RADCO	257,186	1,830	7.12	6.00	$6,764	486	26.56%
17	NORTHERN NECK	49,632	255	5.14	8.85	$7,167	38	14.90%
18	MIDDLE PENINSULA	84,892	540	6.36	8.87	$8,441	139	25.74%
19	CRATER	167,435	3,039	18.15	7.49	$6,927	1026	33.76%
22	ACCOMACK-NORTHAMPTON	51,539	414	8.03	10.41	$6,331	92	22.22%
23	HAMPTON ROADS	1,515,944	10,869	7.17	7.25	$7,361	2825	25.99%
99	Out of State		2,966		6.86	$8,361	441	14.87%
	Grand Total	7,158,828	56,841	7.94	6.66	$6,917	14851	26.13%

Source: VHI

Table 4: Comparison of Use Rates and Number of Psychiatric Beds in Acute Care Hospitals
Planning Districts 15 and 19

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	% Change 1991-2002
Planning District 15													
Total Population	752,356	764,977	777,598	790,219	802,840	815,461	828,082	840,703	853,324	865,941	880,317	891,834	**18.5%**
Use Rate Per 1,000 Population	9.22	9.74	11.32	11.74	11.45	11.48	11.52	9.83	10.04	12.34	11.61	11.62	**26.1%**
Number of Licensed Beds	421	389	436	400	400	406	400	319	311	311	311	277	**-34.2%**
Discharges	6,936	7,449	8,804	9,277	9,193	9,359	9,538	8,266	8,568	10,684	10,222	10,364	**49.4%**
Planning District 19													
Total Population	157,524	158,591	159,658	160,725	161,792	162,859	163,926	164,993	166,060	167,129	168,397	168,219	**6.8%**
Use Rate Per 1,000 Population	11.03	12.74	13.38	13.74	13.70	13.02	14.31	12.30	12.75	12.65	13.45	13.62	**23.5%**
Number of Licensed Beds	65	65	65	65	65	65	65	64	64	64	54	54	**-16.9%**
Discharges	1,737	2,021	2,137	2,209	2,217	2,121	2,345	2,029	2,117	2,115	2,265	2,291	**31.9%**

Note: Psychiatric and CD beds and discharges combined
2001 data for John Randolph Hospital used to approximate 2002 data

Sources: United States Census Bureau 1990 & 2000; 1991-2002 Annual Licensure Survey, VDH

Prepared by Central Virginia Health Planning Agency

Table 5: Behavioral ED Visits' Trends in Planning District 15 and Health Planning Region IV

	1995	1996	1997	1998	1999	2000	2001	2002	Avg. Beh. ED Visits 1995-2002	Avg.Total ED Visits 1995-2002	Avg. % of Beh. ED to Total ED Visits
PLANNING DISTRICT 15											
Chippenham	912	903	897	920	1,401	3,100	6,799	8,050	2,873	50,649	5.7%
Henrico Doctors' Hospital-Forest	308	193	216	244	261	356	322	318	277	28,216	1.0%
Henrico Doctors' Hospital-Parham	161	130	131	187	167	128	170	344	177	13,891	1.3%
Johnston-Willis	281	238	252	290	394	405	558	402	353	30,457	1.2%
Memorial Regional	1,849	684	613	1,031	820	984	1,530	526	1,005	26,255	3.8%
Metropolitan/Capitol	231	200	707	1,082	863	863	0	0	493	6,213	7.9%
Retreat	74	108	129	146	75	166	229	354	160	7,890	2.0%
Richmond Community	NAV	250	326	270	540	441	1,192	1,254	534	11,840	4.5%
St. Mary's	2,200	1,017	1,074	2,160	1,500	2,022	1,752	1,888	1,702	41,483	4.1%
Stuart Circle	550	545	381	943	750	368	0	0	442	10,603	4.2%
VCUHS*	7,977	7,263	6,420	6,083	6,140	5,942	5,849	5,942	6,452	87,197	7.4%
Total PD 15 Behavioral ED Visits	14,543	11,531	11,146	13,356	12,911	14,775	18,401	19,078	14,468		
Total PD 15 ED Visits	310,005	309,205	290,218	286,355	302,606	323,799	331,060	343,099	312,043		
Percentage of Behavioral to Total	**4.7%**	**3.7%**	**3.8%**	**4.7%**	**4.3%**	**4.6%**	**5.6%**	**5.6%**	**4.6%**		
PLANNING DISTRICT 19											
Greensville Memorial**	89	115	122	120	120	120	279	221	148	13,594	1.1%
John Randolph	685	630	517	268	1,866	487	655	716	728	26,499	2.7%
Southside Regional***	3,079	3,183	3,374	3,638	1,927	2,363	768	809	2,393	42,086	5.7%
Total PD 19 Behavioral ED Visits	3,853	3,928	4,013	4,026	3,913	2,970	1,702	1,746	3,269		
Total PD 19 ED Visits	74,960	78,025	80,088	74,019	82,969	84,851	90,368	92,144	82,178		
Percentage of Behavioral to Total	**5.1%**	**5.0%**	**5.0%**	**5.4%**	**4.7%**	**3.5%**	**1.9%**	**1.9%**	**4.0%**		
HEALTH PLANNING REGION IV											
Total HPR IV Behavioral ED Visits	18,169	15,183	16,043	18,286	11,241	12,264	14,826	15,564	15,197		
Total HPR IV ED Visits	434,983	437,066	420,542	413,084	439,521	463,028	478,401	493,112	447,467		
Percentage of Behavioral to Total	**4.2%**	**3.5%**	**3.8%**	**4.4%**	**2.6%**	**2.6%**	**3.1%**	**3.2%**	**3.4%**		

Note:
*=Estimates for 1999 to 2002
**=For 1999 and 2000, 1998 data used
***=1998 figures are estimates

Source: 1995-2002 Hospital Application for License Renewal, VA Dept. of Health

Prepared by Central Virginia Health Planning Agency

Table 6 : Psychiatric Inpatient Discharges for CY 2001: Average Length of Stay by Age and Readmissions

Discharge Region	Age Groups	Total Inpatient Discharges	Average LOS all discharges	Average Length of Stay for Discharges that are not readmitted	Readmissions within 30 days	30 Day Readmission Rate	Average LOS for Discharges readmitted within 30 days	Readmissions within 90 days	90 Day Readmission Rate	Average Length of Stay for 90 Day Readmissions
Statewide	**0 to 18**	7,636	11.26	11.72	682	8.93%	8.35	1,125	14.73%	8.57
Psychiatric Discharges	**19 to 39**	21,683	4.86	4.58	3,720	17.16%	5.74	5,847	26.97%	5.64
	40 to 64	21,495	6.15	5.89	3,696	17.19%	6.84	6,324	29.42%	6.76
	65+	6,027	9.94	9.83	955	15.85%	9.97	1,679	27.86%	10.25
	Total	**56,841**	**6.75**	**6.71**	**9,053**	**15.93%**	**6.83**	**14,975**	**26.35%**	**6.85**
HPD 15	**0 to 18**	1,318	10.85	10.78	102	7.74%	10.00	179	13.58%	11.32
Psychiatric Discharges	**19 to 39**	4,353	4.80	4.58	1,003	23.04%	5.23	1,581	36.32%	5.19
	40 to 64	4,073	6.47	6.20	887	21.78%	6.69	1,498	36.78%	6.92
	65+	1,191	12.16	12.13	231	19.40%	12.29	407	34.17%	12.23
	Total	**10,935**	**6.95**	**6.94**	**2,223**	**20.33%**	**6.76**	**3,665**	**33.52%**	**6.98**

Source: VHI

Table 7: Psychiatric Readmissions for 2001 by APRDRG

APR-DRG	Description	Virginia Total	Readmissions within 30 days		Readmissions within 90 days		PD15 Total	Readmissions within 30 days		Readmissions within 90 days		PD 15 % of VA Adms
			Number	Percent	Number	Percent		Number	Percent	Number	Percent	
750	Schizophrenia	9,651	2,279	23.61%	3,655	37.87%	2,744	877	31.96%	1,357	49.45%	28.43%
751	Psychoses	18,111	2,529	13.96%	4,245	23.44%	3,253	544	16.72%	904	27.79%	17.96%
753	Bipolar Disorders	9,417	1,605	17.04%	2,555	27.13%	1,393	272	19.53%	445	31.95%	14.79%
775	Alcohol Abuse & Dependence	4,671	661	14.15%	1,201	25.71%	771	118	15.30%	220	28.53%	16.51%
754	Depression	4,459	500	11.21%	832	18.66%	910	130	14.29%	210	23.08%	20.41%
757	Organic Disturbances & Mental Retardation	1,744	234	13.42%	431	24.71%	274	46	16.79%	78	28.47%	15.71%
773	Opioid Abuse & Dependence	1,298	150	11.56%	283	21.80%	323	40	12.38%	75	23.22%	24.88%
774	Cocaine Abuse & Dependence	926	111	11.99%	194	20.95%	251	38	15.14%	69	27.49%	27.11%
770	Drug Or Alcohol Abuse Or Dependence, Left Against Medical Advice	797	180	22.58%	270	33.88%	206	43	20.87%	68	33.01%	25.85%
755	Neuroses Except Depressive	1,799	203	11.28%	330	18.34%	194	26	13.40%	49	25.26%	10.78%
756	Acute Adjust React & Disturb Of Psycho Dysfunction	1,298	170	13.10%	266	20.49%	184	32	17.39%	40	21.74%	14.18%
776	Other Drug Abuse & Dependence	819	123	15.02%	223	27.23%	111	23	20.72%	34	30.63%	13.55%
760	Other Mental Disorders	352	50	14.20%	76	21.59%	71	13	18.31%	23	32.39%	20.17%
758	Childhood Mental Disorders	706	61	8.64%	106	15.01%	155	9	5.81%	21	13.55%	21.95%
771	Alcohol & Drug Dependence Wcombined Rehad & Detoxtherapy	498	66	13.25%	124	24.90%	47	7	14.89%	15	31.91%	9.44%
752	Disorders Of Personality & Impulse Control	232	27	11.64%	49	21.12%	39	4	10.26%	10	25.64%	16.81%
759	Compulsive Nutrition Disorders	54	8	14.81%	10	18.52%	8	1	12.50%	1	12.50%	14.81%
772	Alcohol & Drug Dependencew Rehabilitation Therapy	9	0	0.00%	1	11.11%	1	0	0.00%	0	0.00%	11.11%
		56,841	8,957	15.76%	14,851	26.13%	10,935	2,223	20.33%	3,619	33.10%	19.24%

Source: VHI

Table 8: Psychiatric Readmissions for 2001 by Principal Diagnosis

Principal Diagnosis	Description	Total Discharges		Readmissions within 30 days Number		Readmissions within 30 days Percent	
		VA	PD15	VA	PD15	VA	PD15
29570	Schizoaffective-unspec	4,379	1,336	1,180	467	26.95%	34.96%
29530	Paranoid schizo-unspec	1,529	515	318	136	20.80%	26.41%
29620	Depress psychosis-unspec	2,579	884	314	127	12.18%	14.37%
2967	Bipolar affective nos	1,686	505	299	101	17.73%	20.00%
311	Depressive disorder nec	3,230	690	383	105	11.86%	15.22%
29630	Recurr depr psychos-unsp	2,198	545	317	100	14.42%	18.35%
2989	Psychosis nos	2,239	494	296	96	13.22%	19.43%
29633	Recur depr psych-severe	4,588	528	701	90	15.28%	17.05%
29590	Schizophrenia nos-unspec	720	258	177	86	24.58%	33.33%
29534	Paran schizo-chr/exacerb	1,037	193	193	58	18.61%	25.89%
29634	Rec depr psych-psychotic	1,935	241	367	53	18.97%	21.99%
29623	Depress psychosis	2,314	233	237	27	10.24%	11.59%
29181	Alcohol withdrawal	1,338	201	204	28	15.25%	13.93%
	Subtotal	28,015	6,220	4,616	1,419		
	Subtotal as % of total	49.30%	56.90%	51.50%	63.80%		
	Total	56,841	10,935	8,957	2,223	15.76%	20.33%

Principal Diagnosis	Description	Readmissions within 90 days Number		Readmissions within 90 days Percent	
		VA	PD15	VA	PD15
29570	Schizoaffective-unspec	1893	724	43.23%	54.19%
29530	Paranoid schizo-unspec	504	217	32.96%	42.14%
29620	Depress psychosis-unspec	547	217	21.21%	24.55%
2967	Bipolar affective nos	487	172	28.88%	34.06%
311	Depressive disorder nec	619	166	19.16%	24.06%
29630	Recurr depr psychos-unsp	550	161	25.02%	29.54%
2989	Psychosis nos	501	151	22.38%	30.57%
29633	Recur depr psych-severe	1146	144	24.98%	27.27%
29590	Schizophrenia nos-unspec	233	110	32.36%	42.64%
29534	Paran schizo-chr/exacerb	328	105	31.63%	46.88%
29634	Rec depr psych-psychotic	594	91	30.70%	37.76%
29623	Depress psychosis	395	41	17.07%	17.60%
29181	Alcohol withdrawal	363	56	27.13%	27.86%
		7599	2258		
		51.20%	62.40%		
		14851	3619	26.13%	33.10%

Source: VHI

Table 9: Psychiatric Readmissions for 2001 by Payer

Planning District 15

Payer Category	Total Volume	Readmissions within 30 days		Readmissions within 90 days		PD 15 90 Day Readmit % by VA 90 Day Readmit %
		Number	Percent	Number	Percent	
Medicare	3,013	814	27.0%	1,303	43.2%	1.25
Medicaid	1,376	346	25.1%	557	40.5%	1.27
Other Commercial	1,606	223	13.9%	397	24.7%	1.15
Self Pay	991	190	19.2%	308	31.1%	1.31
Trigon/BC/BS	1,062	123	11.6%	220	20.7%	0.98
Unknown	509	124	24.4%	192	37.7%	1.17
HMO/PPO-Unspecified	681	90	13.2%	169	24.8%	1.07
State Government	296	83	28.0%	114	38.5%	1.25
Jail/Detention	321	40	12.5%	71	22.1%	1.59
BC/BS Out-of-State	138	50	36.2%	63	45.7%	1.92
Cigna	234	35	15.0%	59	25.2%	1.12
Local Government	169	37	21.9%	49	29.0%	1.50
Southern Health	88	10	11.4%	24	27.3%	1.16
United Healthcare	85	10	11.8%	21	24.7%	1.26
Aetna/US Healthcare	122	10	8.2%	18	14.8%	0.84
Sentara	40	8	20.0%	18	45.0%	1.85
MAMSI	93	12	12.9%	13	14.0%	0.62
Other Government	31	6	19.4%	8	25.8%	1.70
Tricare/Champus	39	3	7.7%	4	10.3%	0.53
Qualchoice	10	3	30.0%	4	40.0%	2.13
Indigent/Charity	12	2	16.7%	3	25.0%	0.87
Medicaid Out-of-State	3	3	100.0%	3	100.0%	6.12
Prudential	1	1	100.0%	1	100.0%	2.67
Worker's Comp	2	0	0.0%	0	0.0%	N/A
State Farm	0	0	0.0%	0	0.0%	N/A
Gov. Assistance	0	0	0.0%	0	0.0%	N/A
Black Lung	0	0	0.0%	0	0.0%	N/A
Research/Donor	0	0	0.0%	0	0.0%	N/A
Foreign	0	0	0.0%	0	0.0%	N/A
Hospice-Unspecified	11	0	0.0%	0	0.0%	N/A
John Hancock	0	0	0.0%	0	0.0%	N/A
GWU Health Plan	0	0	0.0%	0	0.0%	N/A
Kaiser Permanente	2	0	0.0%	0	0.0%	N/A
Grand Total	**10,935**	**2,223**	**20.3%**	**3,619**	**33.1%**	**1.27**

Virginia

Payer Name	Total Volume	Readmissions within 30 days		Readmissions within 90 days	
		Number	Percent	Number	Percent
Medicare	13,822	2,866	20.7%	4,783	34.6%
Medicaid	7,191	1,375	19.1%	2,285	31.8%
Other Commercial	8,712	1,135	13.0%	1,867	21.4%
Trigon/BC/BS	5,337	684	12.8%	1,127	21.1%
Self Pay	3,632	534	14.7%	859	23.7%
HMO/PPO-Unspecified	2652	339	12.8%	614	23.2%
State Government	1,334	270	20.2%	411	30.8%
Jail/Detention	2,617	200	7.6%	364	13.9%
BC/BS Out-of-State	1386	210	15.2%	329	23.7%
Unknown	872	178	20.4%	282	32.3%
Sentara	1087	161	14.8%	264	24.3%
Cigna	1,173	159	13.6%	263	22.4%
MAMSI	891	116	13.0%	200	22.4%
Local Government	1,001	115	11.5%	194	19.4%
Aetna/US Healthcare	1,099	113	10.3%	192	17.5%
Tricare/Champus	960	114	11.9%	187	19.5%
Kaiser Permanente	1029	128	12.4%	179	17.4%
Indigent/Charity	503	82	16.3%	145	28.8%
United Healthcare	476	55	11.6%	93	19.5%
Qualchoice	400	43	10.8%	75	18.8%
Southern Health	140	13	9.3%	33	23.6%
Other Government	184	18	9.8%	28	15.2%
Research/Donor	50	10	20.0%	19	38.0%
Medicaid Out-of-State	104	12	11.5%	17	16.3%
Worker's Comp	57	8	14.0%	14	24.6%
Prudential	16	6	37.5%	6	37.5%
GWU Health Plan	50	3	6.0%	6	12.0%
Black Lung	6	2	33.3%	5	83.3%
Hospice-Unspecified	22	3	13.6%	4	18.2%
Gov. Assistance	24	2	8.3%	3	12.5%
Foreign	4	2	50.0%	2	50.0%
State Farm	5	1	20.0%	1	20.0%
John Hancock	5	0	0.0%	0	0.0%
Grand Total	**56,841**	**8,957**	**15.8%**	**14,851**	**26.1%**

Source: VHI

Table 10: Psychiatric Readmissions for CY 2001 by Physician

		Readmissions within 30 Days		Readmissions within 90 Days	
Attending Physician	**Total Volume**	Number	Percent	Number	Percent
1	1,001	227	22.68%	356	35.56%
2	862	251	29.12%	327	37.94%
3	717	102	14.23%	176	24.55%
4	564	166	29.43%	252	44.68%
5	440	72	16.36%	134	30.45%
6	349	83	23.78%	148	42.41%
7	343	70	20.41%	110	32.07%
8	310	89	28.71%	155	50.00%
9	292	52	17.81%	88	30.14%
10	272	97	35.66%	151	55.51%
11	268	21	7.84%	41	15.30%
12	265	18	6.79%	25	9.43%
13	236	36	15.25%	73	30.93%
14	228	79	34.65%	127	55.70%
15	220	44	20.00%	72	32.73%
16	220	42	19.09%	66	30.00%
17	219	42	19.18%	72	32.88%
18	218	20	9.17%	45	20.64%
19	203	58	28.57%	94	46.31%
20	198	31	15.66%	57	28.79%
21	197	31	15.74%	56	28.43%
22	175	43	24.57%	75	42.86%
23	171	45	26.32%	63	36.84%
24	169	21	12.43%	41	24.26%
25	166	32	19.28%	64	38.55%
26	156	21	13.46%	35	22.44%
27	151	46	30.46%	61	40.40%
28	123	19	15.45%	34	27.64%
29	121	35	28.93%	57	47.11%
30	121	11	9.09%	24	19.83%
31	113	32	28.32%	48	42.48%
32	109	25	22.94%	44	40.37%
33	85	13	15.29%	21	24.71%
34	77	22	28.57%	27	35.06%
35	75	15	20.00%	22	29.33%
36	75	8	10.67%	13	17.33%
37	71	14	19.72%	24	33.80%
38	69	14	20.29%	21	30.43%
39	64	8	12.50%	15	23.44%
40	63	5	7.94%	8	12.70%
41	62	12	19.35%	20	32.26%
42	53	3	5.66%	8	15.09%
Subtotal	**9,891**	**2,075**		**3,350**	
Subtotal as percent of total	*90.5%*	*93.3%*		*92.6%*	
Total	**10,935**	**2,223**	**20.33%**	**3,619**	**33.10%**

Source: VHI