A REPORT
TO THE
ARIZONA LEGISLATURE

Performance Audit Division

Performance Audit

Behavioral Health Services' HB2003 Funding for Adults with Serious Mental Illness

APRIL • 2004
REPORT NO. 04-03

STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

Debra K. Davenport
Auditor General

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STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

DEBRA K. DAVENPORT, CPA
AUDITOR GENERAL

WILLIAM THOMSON
DEPUTY AUDITOR GENERAL

April 26, 2004

Members of the Arizona Legislature

The Honorable Janet Napolitano, Governor

Catherine R. Eden, Ph.D., Director
Arizona Department of Health Services

Transmitted herewith is a report of the Auditor General, a Performance Audit of the Department of Health Services, Behavioral Health Services' HB2003 Funding for Adults with Serious Mental Illness. The report is in response to Laws 2000, Fifth Special Session, Chapter 2, §§1 and 5 which established the funding, and required the Office of the Auditor General to examine the Department's success in using the monies to meet agreed-upon performance standards. I am also transmitting with this report a copy of the Report Highlights for this audit to provide a quick summary for your convenience.

As outlined in its response, the Department of Health Services agrees with all three findings and plans to implement or implement in a different manner all of the recommendations.

My staff and I will be pleased to discuss or clarify items in the report.

The report will be released to the public on April 27, 2004.

Sincerely,

Debbie Davenport
Auditor General

Enclosures

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SUMMARY

The Office of the Auditor General has conducted a performance audit examining the results of appropriating approximately $42 million in special one-time funding for services to persons with serious mental illnesses. This funding, known as House Bill 2003 (HB2003) funding, was specifically established in Laws 2000, Fifth Special Session, Chapter 2, §§1 and 5. This legislation also requires the Office of the Auditor General to examine the success in using the monies to meet agreed-upon performance standards.[1] The program established by the legislation ends on July 1, 2005, pursuant to Arizona Revised Statutes §36-503.02.

The money was appropriated to the Department of Health Services to provide housing, vocational rehabilitation, and other support services to people with schizophrenia, delusional disorders, or any of several other conditions. The Department's Division of Behavioral Health Services (Division) distributed most of the monies to the five Regional Behavioral Health Authorities (RBHAs) that administer mental health programs in the State. To obtain the money, each RBHA had to develop a plan consistent with the Division's specifications, including a list of performance standards for evaluating accomplishments. Examples of performance standards include reduction in symptoms, hospitalization, jail and arrests, and substance abuse. The standards also include increases in housing stability, safety, social adjustment, recovery, and vocational participation. As of June 30, 2003, the RBHAs had spent more than 82 percent of the total amount allocated to them. Over 90 percent of the monies spent as of June 30, 2003, was spent in three main areas: housing (40 percent), intensive case management (35 percent), and additional rehabilitation services (nearly 16 percent). The remaining monies were spent on RBHA administrative expenditures and such items or services as vehicles for transporting consumers, expanding evaluation programs, and videoconferencing equipment for expanding service networks. [2]

The Division requires all of the monies to be spent by January 1, 2005. According to division officials, they plan to conduct an evaluation of the programs that the RBHAs developed with their HB2003 monies once the RBHAs have spent all of their HB2003 monies.

1 Laws 2000, Fifth Special Session, Chapter 2, §5 also appropriated $20 million for funding children's behavioral health services. A separate performance audit of the House Bill 2003 children's services program was released in December 2002 (Report No. 02-12).

2 The Division and the RBHAs refer to persons receiving services as consumers.

Consumers benefited from housing programs (see pages 13 through 23)

The five RBHAs reported using a total of $13.6 million in HB2003 monies, or approximately 40 percent of the total spent as of June 30, 2003, to develop housing and related programs. Research shows that stable housing is an important factor in a consumer's recovery from mental illness, although persons with serious mental illness commonly cannot attain suitable housing and may lose their homes and become homeless. Research also shows that people with a serious mental illness need housing that is coordinated with other support services. Through an interagency agreement, the Arizona Department of Housing helped the RBHAs identify and acquire properties. In all, the five RBHAs reported they bought or built housing and apartments on 39 sites in 21 cities around Arizona, and created housing space for 334 individuals. Two RBHAs—ValueOptions and NARBHA—developed supervised housing and independent living options, while the other three RBHAs developed independent housing options only. This housing will continue to be available after the HB2003 program ends. Two RBHAs—ValueOptions and PGBHA—also used part of the monies for programs that help people stay in the housing they already have.

Consumers who lived in the new housing for at least 6 months improved in their mental health functioning and independence, and reported satisfaction with the housing.[1] Specifically, at ValueOptions, consumers made greater gains on several measures of functioning than consumers on a waiting list for new housing. For example, they improved in measures of family and living environment, interpersonal relations, substance abuse, self-care, and feeling and mood. At Excel, consumers made gains only on the substance abuse measure of functioning. Further, results varied according to consumers' beginning mental health functioning level, with the greatest gains occurring among ValueOptions consumers who had the most severe dysfunction. Additionally, consumers at both RBHAs generally either maintained or increased their level of independence. Finally, most consumers interviewed during the audit reported satisfaction with their new housing.

Since three RBHAs' new-housing consumers generally had not lived in their homes long enough to be included in this audit's analysis, the Division should assess consumers' progress at these RBHAs after their consumers have lived in housing for at least 6 months. The Division should also determine the housing program's impact on hospitalization and arrests. Although these two measures were identified in the Division's list of performance standards, auditors could not draw conclusions about them because they were such rare events among the population examined. Finally, the Division should work with Excel to determine what outcomes should be expected for consumers in independent housing, and analyze the impact of Excel's hous-

[1] The evaluation time frame spanned approximately 24 months from the first time a consumer moved into HB2003 housing in February 2001 through January 31, 2003.

ing program against those outcomes. The Division could conduct these analyses as part of the HB2003 program evaluation that it plans to conduct once all HB2003 monies are expended. The Division should use its research results to develop recommendations and provide technical assistance to the RBHAs to improve their housing programs.

Consumers show modest gain from intensive case management programs (pages 25 through 34)

Four of the five RBHAs reported using $12 million, or 35 percent of total spending as of June 30, 2003, to develop intensive case management teams to provide consumers with a range of services, including substance abuse and vocational counseling, medication management, and life skills training. The teams differ from traditional case management in their staffing structure, caseload size, and frequency of contact. In addition, team members provide many services directly instead of coordinating all services through other providers. Several research studies on Assertive Community Treatment (ACT), a form of intensive case management, have linked this approach with fewer hospitalizations, less severe symptoms, and increased life satisfaction. As of December 31, 2002, more than 2,200 consumers, or about 8 percent of the adults with serious mental illness in the behavioral health system, had received assistance from the new teams.

Overall, consumers who participated in these new intensive case management programs made modest improvements in their functioning level, while consumers in a comparison group either stayed the same or worsened.[1] Consumers with more severe dysfunctions prior to entering the program showed the greatest gains. Symptoms and hospitalization remained stable for most groups, and self-reported arrests improved but not as much as expected. However, consumers' own assessments of their mental health status improved, and consumers interviewed during the audit told auditors that they felt the new services had helped them. The length of time consumers remained in the program did not affect functioning level results. Although the new programs resulted in modest improvement for consumers at most RBHAs, PGBHA's consumers showed little change from services provided through HB2003 during the 24-month evaluation time frame. In conjunction with the recommendation to analyze arrests for consumers who lived in HB2003 housing, the Division should also analyze arrests for consumers who participated in the intensive case management programs, since auditors could assess results for only two of the four RBHAs that developed these programs. The Division should also evaluate the program's impact on length of hospital stay, since discharge data was too limited for auditors to conduct this analysis. Finally, the Division should examine the causes for the lack

1 The evaluation time frame spanned approximately 24 months from the time of earliest enrollment in February 2001 through January 31, 2003.

of significant results for PGBHA's consumers. The Division could conduct these analyses as part of its planned program evaluation, and should develop recommendations and provide technical assistance to the RBHAs to improve their intensive case management programs.

Rehabilitation activities have increased (see pages 35 through 43)

Using $5.4 million in HB2003 monies, or nearly 16 percent of the total spending as of June 30, 2003, according to their reports, three RBHAs—ValueOptions, CPSA, and NARBHA—provided greater vocational rehabilitation and recovery support services for consumers. These services range from teaching consumers basic community living skills to helping them prepare to find and keep a job. RBHAs mainly pursued two strategies for improving rehabilitation and recovery support services: integrating rehabilitation planning into clinical case management and expanding rehabilitation service availability in their respective service areas. For example, some RBHAs have established consumer-run drop-in centers where consumers can meet to support each other and socialize, volunteer, work, and actually oversee operations. The Rehabilitation Services Administration (RSA) of Arizona's Department of Economic Security has also been involved in these efforts. For example, two RBHAs are working with the Division and RSA to teach consumers recovery principles and help them find employment as peer support specialists.

As a result of these efforts, consumers in two RBHAs increased their involvement in some types of meaningful community activities.[1] Consumers at ValueOptions increased their involvement in psychosocial rehabilitation and consumer-run activities. Some consumers at ValueOptions and CPSA-5 who were involved in those activities improved their interpersonal relations functioning. In addition, ValueOptions and CPSA-5 consumers increased participation in education, training, and transitional work activities. However, most consumers showed little or no increased participation in paid employment. Research on the employment of persons with serious mental illness states that if competitive employment is the ultimate goal, then rehabilitation efforts should be directly focused on competitive employment to achieve a successful outcome. According to the Division, the HB2003 programs focused primarily on those individuals who were not expressing an immediate desire to enter the workforce, and emphasized getting people involved in any meaningful rehabilitation activity, rather than focusing exclusively on paid employment.

The Division should analyze rehabilitation activity levels at a later date to determine if ValueOptions and CPSA consumers continue to increase their activity levels, and whether the other RBHAs' consumers eventually increase their activity levels. The Division could do this as part of its planned program evaluation, and should provide

1 The evaluation time frame for rehabilitation services spanned 20 months from June 1, 2001 through January 31, 2003. Auditors used a shorter time frame to control for the effect of a data conversion that occurred in April 2001 that changed the way the RBHAs reported rehabilitation status.

technical assistance to the RBHAs to identify and implement any needed program changes to increase activity levels in the different geographic service areas.

According to division and RBHA representatives, most of the HB2003 rehabilitation system enhancements will be sustainable in the future because they have been added as covered services under Medicaid. This change took place in October 2001. HB2003 monies were used to help service providers set up systems to report these services to the RBHAs and pay for services for persons who are not Medicaid-eligible.

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INTRODUCTION & BACKGROUND

The Office of the Auditor General has conducted a performance audit examining the results of appropriating approximately $42 million in special one-time funding for services to persons with serious mental illnesses. This funding, known as House Bill 2003 (HB2003) funding, was specifically established in Laws 2000, Fifth Special Session, Chapter 2, §§1 and 5. This legislation also requires the Office of the Auditor General to examine the success in using the monies to meet agreed-upon performance standards.[1] The program established by the legislation ends on July 1, 2005, pursuant to Arizona Revised Statutes §36-503.02.

Monies to be used for persons with serious mental illness

Under the approved legislation, the Legislature initially appropriated $50 million from the State General Fund's tobacco litigation settlement account to the Department of Health Services in fiscal 2001. In 2002, the Legislature reduced the total allocation by $9.5 million. The Department's Division of Behavioral Health Services (Division) reported that it returned the money but added $1.6 million from accumulated interest earned on the appropriated funding, resulting in a new total amount of $42.1 million. According to the legislation, the one-time, nonreverting funding was to be used for housing, vocational rehabilitation, and other recovery support services for persons who have a serious mental illness. The legislation also requires the Department of Health Services to design services to help these persons achieve the highest level of self-sufficiency and to develop performance standards to measure its success in using the HB2003 monies. Finally, the monies were to be used to supplement and not supplant existing and future appropriations.

Serious Mental Illness—Severe, chronic mental illness (such as schizophrenia) that interferes with a person's ability to function in society.

Recovery Support—Services that help consumers gain control over their mental illness by learning to manage symptoms, recognize and avert crises, seek help when needed, and attain their highest level of self-sufficiency. For example, these services include teaching consumers to use a Wellness Recovery Action Plan (WRAP).

[1] Laws 2000, Fifth Special Session, Chapter 2, §5 also appropriated $20 million for funding children's behavioral health services. A separate performance audit of the House Bill 2003 children's services program was released in December 2002 (Report No. 02-12).

According to the bill's primary sponsor, the HB2003 monies were intended to allow the Department to show that additional funding could make a difference in its ability to serve adults with serious mental illness. Arizona has had long-standing challenges meeting these needs. In part as a result of a 1981 lawsuit, several reports have examined Arizona's behavioral health system and identified needed improvements.[1] The *Arnold v. Sarn* lawsuit was filed on behalf of people with serious mental illness in Maricopa County and alleged that the State and Maricopa County failed to provide them adequate community mental health services as required by law.

One report from 1991—a year when state-wide funding for serious mental illness totaled $57 million—estimated the total cost of complying with the lawsuit in Maricopa County for fiscal years 1991 through 1995 at $240 million.[2] Funding for services has increased substantially since the lawsuit, most notably through the addition of federal Medicaid monies beginning in fiscal year 1990. Still, a 1998 agreement related to the lawsuit and a 1999 Legislative Task Force report have continued to identify unmet needs for serving adults with serious mental illness.

HB2003 planning reflects system needs

The HB2003 legislation targets three areas—community housing, vocational rehabilitation, and other recovery support services—all of which are areas identified as having unmet needs. Recent agreements related to the *Arnold* lawsuit have focused on these areas, and the Division's plans for using the HB2003 monies attempted to address those needs. For example, a 1998 agreement with the plaintiffs required the Division to develop strategic plans for housing and vocational and substance abuse services, and a consultant report required by the agreement identified service needs in housing, recovery support, and rehabilitation. The Division used the strategic plans and consultant's report in identifying HB2003 program service categories and performance measures. Similarly, in 2000, the Division and its Maricopa County Regional Behavioral Health Authority (RBHA) developed a case management plan for Maricopa County to replace a plan developed by the Court Monitor. Case management is a type of recovery support. The Division directed the RBHA to be consistent with this plan in developing its proposal for using HB2003 monies in the County.

Other reports have also identified needs in those areas and influenced plans for the HB2003 monies. Specifically, a 1999 service gap analysis for Maricopa County reported that stakeholders identified three service priorities for persons with serious mental illness: 1) more aggressive case management, 2) availability of meaningful

1 160 Ariz. 593; 775 P.2d 521; 1989, Maricopa County C-432355.

2 *The Blueprint: Implementing Services to the Seriously Mentally Ill*, which was the implementation plan intended to ensure that the court's judgment would be fully implemented. The Blueprint was issued by the Department of Health Services and the Maricopa County Board of Supervisors.

Arnold v. Sarn lawsuit selected events

1981: A public fiduciary named Arnold files suit on behalf of people with serious mental illness in Maricopa County, alleging the State did not comply with A.R.S. §36-550.01(A) which requires it to provide an array of community-based mental health services to people with serious mental illness.

1986: Maricopa County Superior Court finds on behalf of the plaintiffs.

1995: Exit stipulation sets out terms for fully satisfying the lawsuit, including development of community living arrangements, appropriate support for people living in the Arizona State Hospital, and diversion of individuals from the Maricopa County Jail.

1998: Agreement with plaintiffs requires Department of Health Services to create strategic plans for housing, vocational services, and substance abuse services, and to retain Human Services Research Institute (HSRI) as a consultant to help determine type, intensity, and amount of services necessary to meet class members' needs.

1999: HSRI report identifies needed services, including housing, recovery support, and rehabilitation.

2000: Case management plan developed for Maricopa County.

daily activities, including consumer-run clubhouses, businesses, and social activities, and 3) additional housing options, including a full continuum of housing that includes home-based services.[1] All three priorities were included in the HB2003 spending plans. Further, a Legislative Task Force in 1999 noted the need for a state-wide mental health system that provides a continuum of care including housing, rehabilitation, and vocational services.

A 1999 United States Supreme Court decision and subsequent Presidential Executive Order also support Arizona's decision to spend money on improving community-based mental health services. In *Olmstead v. L.C.*,[2] the court held that unnecessary segregation of individuals with disabilities in institutions may constitute discrimination based on disability. In August 2001, three Arizona state agencies—the Departments of Health Services and Economic Security and the Arizona Health Care Cost Containment System—completed Arizona's Olmstead Plan. The plan and its March 2003 revision described activities that were underway to improve Arizona's community-based system, including establishing active community treatment case

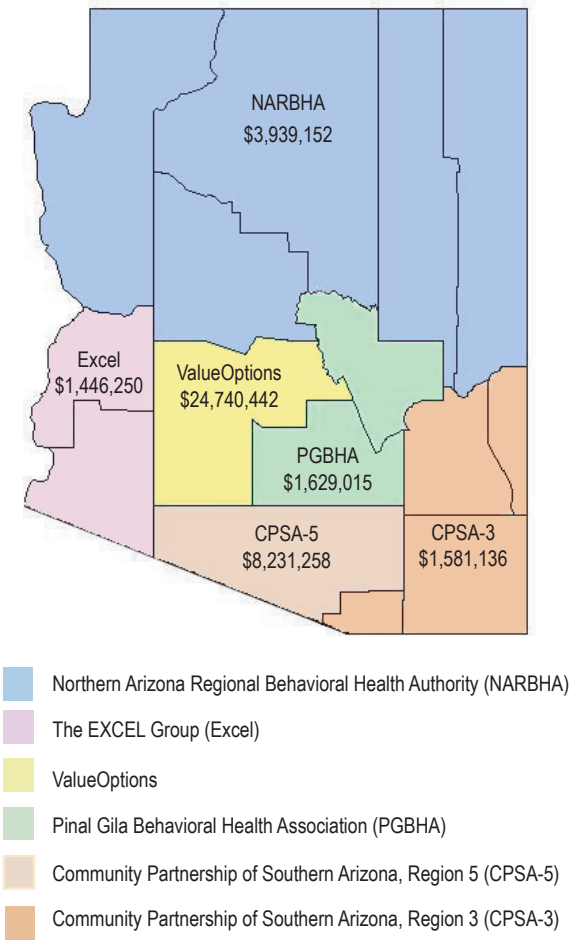
1 ValueOptions conducted the gap analysis as part of its service implementation after the Department awarded it the Regional Behavioral Health Authority (RBHA) contract for Maricopa County in 1998. Stakeholders included officials and staff of the former RBHA, ComCare, consumers, healthcare providers, state and city agency representatives, and advocates.

2 *Olmstead v. L.C.*, 119 S.Ct. 2176 (1999).

management teams, expanding consumer-run services, and using HB2003 monies for services such as housing and vocational rehabilitation.[1]

Program monies distributed to RBHAs

Figure 1: Regional Behavioral Health Authorities Program Fund Allocations Through June 30, 2005



Source: Department of Behavioral Health Services' letters to Regional Behavioral Health Authorities (RBHAs) regarding program funding, May 2002. The allocation covers the entire life of the program from fiscal year 2001 through fiscal year 2005.

The Division allocated approximately $41.6 million of the $42.1 million in HB2003 funds to the State's Regional Behavioral Health Authorities (RBHAs) for programs and services. The Division contracts with five RBHAs to provide behavioral health services in their geographic service areas, and allocated the HB2003 monies to the RBHAs based on service area population. Four RBHAs subcontract with behavioral health service providers in a manner similar to health maintenance organizations, and the fifth, the Excel group in Yuma, directly provides most services in its region. Figure 1 shows the five RBHAs, the six geographic areas they serve, and their HB2003 funding allocations. Of the $527,000 not transferred to the RBHAs, the Division paid $227,000 to the Department of Housing for services provided to RBHAs in acquiring housing units and, as required by the legislation, transferred $300,000 to the Office of the Auditor General for this audit.

Following legislation passage, the Division issued HB2003 Plan Specifications to the five RBHAs. To obtain HB2003 monies, each RBHA had to develop a plan consistent with the specifications. The RBHAs could propose using the monies to develop housing for consumers with serious mental illness, and/or to develop recovery support and rehabilitation services to help consumers achieve their highest level of self-sufficiency. The specifications included an evaluation component that listed performance measures for each type of program (see Table 1, page 5). As required by the legislation, the Office of the Auditor General reviewed these performance measures, and the Division submitted them to the Joint Legislative Budget Committee for approval before any of the HB2003 monies were distributed to the RBHAs.

[1] The Division and RBHAs refer to persons receiving services as consumers. For consistency, that term is used in this report as well.

Table 1: Performance Measures for Evaluating Outcomes of HB2003 Programs for Adults with Serious Mental Illness

Performance Measure[1]	Type of Program		
	Housing	Case Management	Rehabilitation
Reduced hospitalization	X	X	
Reduced symptoms	X	X	
Increased housing stability	X		
Reduced jail and arrests	X	X	
Increased consumer satisfaction	X	X	X
Increased family satisfaction	X	X	X
Increased safety	X		
Increased social adjustment	X		X
Reduced substance abuse	X		
Increased recovery			X
Increased vocational functioning			X
Increased vocational participation		X	

[1] See Appendix 1, pages a-iii through a-v for more detailed descriptions of specific measures used.

Source: Auditor General staff analysis of HB2003 Evaluation Plan prepared by the Division of Behavioral Health Services, August 2001, revised February 6, 2003.

As of June 30, 2003, the RBHAs reported that they had expended over $34 million on HB2003 programs (see Table 2, page 6). The Division requires all the monies to be spent by January 1, 2005. Reported expenditures for HB2003 programs included the following:

- Housing ($13.6 million)—All five RBHAs reported using HB2003 monies to buy or build housing for consumers with serious mental illness and to provide support services to help consumers remain in their homes. One RBHA, Excel, chose to use almost all its HB2003 monies for housing. As a result of this investment, the RBHAs were able to obtain an additional $5 million from other sources, such as the United States Department of Housing and Urban Development and the State Housing Trust Fund. In addition to buying or building new housing, the program provided housing assistance monies to 1,304 consumers as of September 30, 2003. Finding 1 (see pages 13 through 23) provides additional information about the housing programs.

- Case management teams ($12.0 million)—Four RBHAs reported using HB2003 monies to develop intensive case management teams. According to the RBHAs' financial reports, the monies paid for consultants to help develop the teams, train existing staff, create new positions to staff the teams, and provide

Table 2: HB2003 Serious Mental Illness (SMI) Program Allocations and Expenditures
From Program Inception through June 30, 2003
(Unaudited)

	CPSA-3	CPSA-5	Excel	NARBHA	PGBHA	ValueOptions	Total
Total allocation	$1,581,136	$8,231,258	$1,446,250	$3,939,152	$1,629,015	$ 24,740,442	$41,567,253
Expenditures							
Housing							
Development/capital	$1,050,000	$1,314,545	$1,315,713	$1,125,366	$ 965,225	$ 4,858,006	$10,628,855
Operations		267,000				1,926,059	2,193,059
Housing assistance					122,489	703,464	825,953
Rehabilitation and recovery support services							
Other services	444	47,040		48,176		2,962,803	3,058,463
Consumer-run services		550,281		841,898		925,617	2,317,796
Clinical teams							
Services	904,535	4,239,879		1,177,698	13,187	4,142,889	10,478,188
Site maintenance and operation		210,000				1,109,978	1,319,978
Training						232,036	232,036
Other expenditures							
Transportation—capital		30,000	130,536	57,000	26,087		243,623
Telemedicine					327,314		327,314
Extended evaluation						475,365	475,365
Total program expenditures	1,954,979	6,658,745	1,446,249	3,250,138	1,454,302	17,336,217	32,100,630
Administrative expenditures[1]	87,445	505,852		297,802	137,734	1,139,454	2,168,287
Total expenditures	$2,042,424[2]	$7,164,597	$1,446,249	$3,547,940	$1,592,036	$18,475,671	$34,268,917

1 Excel used all of its HB2003 allocation for program purposes. It did not use any of the monies for administration.

2 CPSA's total expenditures include additional nonHB2003 monies. CPSA-3 used $487,136 in nonHB2003 monies, and CPSA-5 used an additional $54,618.

Source: Auditor General staff analysis of Division of Behavioral Health Services' HB2003 allocation and administrative expenditure schedules and the Regional Behavioral Health Authorities' recaps of HB2003 programs as of June 30, 2003.

consumer services. Finding 2 (see pages 25 through 34) provides additional information about the case management programs.

- Rehabilitation ($5.4 million)—Three RBHAs reported using HB2003 monies to develop and pay for rehabilitation services, including psychosocial rehabilitation, education, and vocational programs. Some of the monies paid for developing consumer-run services such as clubhouses and drop-in centers, and to hire consumers for peer counseling and "warm lines." Finding 3 (see pages 35 through 43) provides additional information about the rehabilitation programs.

- Other ($1.0 million)—In addition, the RBHAs reported using the HB2003 monies in other ways. For example, Excel, NARBHA, and PGBHA bought vehicles for transporting consumers to services and activities. ValueOptions established an extended evaluation program to assess people requesting seriously mentally ill eligibility, but whose diagnosis cannot be determined without extensive treatment and stabilization. Finally, PGBHA purchased and installed telemedicine equipment at service providers' locations throughout its region. Telemedicine involves using videoconferencing equipment to increase access to training, psychiatric services, and case staffing meetings between distant sites.

The RBHAs were allowed to use up to 8 percent of the monies for combined administration and profit, and as shown in Table 2 (see page 6), four RBHAs have used some of their allocation for administration, totaling approximately $2.2 million as of June 30, 2003.

More than 3,300 consumers participated in HB2003 programs

Altogether, 3,358 consumers had participated in one or more of the HB2003 programs by December 31, 2002. Table 3 (see page 8) shows the consumers' gender, age, race, ethnicity, and diagnosis as reported in their enrollment and assessment data. In addition to these 3,358 program participants, ValueOptions had enrolled another 242 consumers in its extended evaluation program.

The HB2003 program participants represented approximately 13 percent of the nearly 26,000 adults with serious mental illness who were enrolled in the behavioral health system as of December 31, 2002. In its plan specifications, the Division directed the RBHAs to select consumers with four specified types of major mental illness to participate in the HB2003 programs: schizophrenia, delusional disorders, affective psychoses such as bipolar disorder, and other psychoses. According to the Division's former medical director, sufficient research exists on these illnesses to make them more predictable than serious mental illness in general. Some RBHAs added further

Table 3: Number of HB2003 Consumers with a Serious Mental Illness Served
As of December 31, 2002

	CPSA-3	CPSA-5	Excel	NARBHA	PGBHA	ValueOptions	Total	Percentage
Total number	44	188	63	128	111	2,824	3,358	100.0
Demographic categories								
Gender								
Female	14	88	34	69	63	1,475	1,743	51.9
Male	30	100	29	59	48	1,349	1,615	48.1
Age Groups								
18-25	5	28	9		4	166	212	6.3
26-35	5	33	14	10	22	485	569	17.0
36-45	13	57	14	38	34	890	1,046	31.1
46-55	15	53	20	51	31	801	971	29.0
56-65	5	14	6	23	16	347	411	12.2
66 and over	1	3		6	4	135	149	4.4
Race								
White	44	167	44	114	100	2,001	2,470	73.5
Black/African-American		12	4	4	9	564	593	17.7
Asian			1		2	93	96	2.9
Native-American		5	5	1		32	43	1.3
Other/unknown		4	9	9		134	156	4.6
Ethnicity								
Hispanic[1]	4	14	14	10	15	373	430	12.8
Non-Hispanic	40	174	49	118	96	2,451	2,928	87.2
Diagnosed with a serious mental illness								
Delusional disorder	2	3				9	14	0.4
Major depressive disorder	18	92	30	64	51	1,091	1,346	40.1
Schizophrenia	19	70	28	44	40	1,126	1,327	39.5
Other psychotic disorder	3	10	1	7	9	199	229	6.8
Other/unknown	2	13	4	13	11	399	442	13.2

CPSA-3—Community Partnership of Southern Arizona—Cochise, Graham, Greenlee, and Santa Cruz Counties
CPSA-5—Community Partnership of Southern Arizona—Pima County
NARBHA—Northern Arizona Regional Behavioral Health Authority
PGBHA—Pinal Gila Behavioral Health Association

[1] A Hispanic individual can be any race.

Source: Auditor General staff analysis of enrollment and assessment data provided by the Division of Behavioral Health Services and its Regional Behavioral Health Authorities, including all consumers enrolled from program inception through December 31, 2002.

selection criteria in their proposals for using the HB2003 money. For example, NARBHA planned to focus on individuals identified as high utilizers of their services, ValueOptions targeted its plan to the *Arnold v. Sarn* priority population, and PGBHA planned to target its case management to consumers with the greatest need.

The impact of HB2003 will extend beyond this group of participating consumers. For example, the housing purchased using HB2003 monies will continue to be used for persons with serious mental illness for at least 15 years under use restrictions on the properties. In addition, the RBHAs plan to continue other programs that were supported with HB2003 monies, such as the consumer-run drop-in centers and clubhouses.

According to division officials, they plan to conduct an evaluation of the programs that the RBHAs developed with their HB2003 monies once the RBHAs have spent all the monies. Similar to this audit, the Division plans to assess the RBHAs' programs in accordance with the performance measures that the Joint Legislative Budget Committee (JLBC) approved.

Scope and methodology

As required by legislation, this audit report focused on the Division's ability to meet the performance measures it established for its three major programs (see Table 1, page 5, and Appendix 1, page a-iii through a-v), and contains findings in all three areas:

- First, consumers benefited from the housing programs, but the Division should conduct its own impact analysis since consumers at only three RBHAs had lived in the housing long enough to be included in the audit analysis.

- Second, consumers benefited from the intensive case management programs, but the Division should conduct its own analysis on arrests since only two of four RBHAs had complete enough information to include in the Auditor General's analysis, and also look at length of hospital stay. In addition, it should determine the causes for the lack of results at one RBHA.

- Third, consumers increased their participation in rehabilitation activities, particularly at two RBHAs, but the Division should conduct its own analysis to determine whether other consumers eventually increase activity levels.

A combination of the following methods was used in the audit:

- Auditors conducted two main types of analysis to examine the outcomes of the HB2003 programs. To conduct both parts of the outcome analysis, auditors

obtained and verified records from the Division's enrollment, assessment, and encounter (services provided) databases for the period July 1, 2000 through December 31, 2002 (enrollment data), or January 31, 2003 (assessment and encounters). The first type of analysis compared consumer symptoms and functioning levels, housing independence status, participation in vocational and rehabilitation activities, arrests, and hospitalizations before and after program participation. The second type of analysis compared program participants' symptoms and other performance measures with those of similar consumers who did not participate in the programs.

Appendix 2 (see page a-ix) provides detailed results of the outcome analysis.

- To understand the results of the outcome analysis and put them in context, auditors reviewed division program specifications, RBHA spending plans, pertinent literature regarding each program (see Bibliography, pages a-xli through a-xvii), criteria that the Division established for each program, and RBHA reports showing whether their programs matched the Division's criteria. Auditors also examined documents related to the *Arnold* lawsuit regarding persons with serious mental illness and interviewed representatives of the plaintiffs' attorneys and the court monitor's office.

- To assess the housing programs that received HB2003 monies, auditors toured 16 housing sites, interviewed RBHA and service provider staff, and interviewed 14 consumers living at the sites. To determine whether the Division used sound procedures for selecting housing and ensuring its continued use for persons with serious mental illness, auditors interviewed Arizona Department of Housing officials and examined documents showing their review and approval of division proposals, reviewed purchase documents showing the terms and conditions for use of purchased or constructed housing, reviewed consumer leases, and reviewed division expenditure reports and documents showing how the RBHAs and service providers used HB2003 monies as matching funds to obtain housing money from other sources.

- To assess the case management programs that received HB2003 monies, auditors met with 19 members of the new case management teams, interviewed 8 consumers, surveyed 10 service providers, examined training plans and related materials, and reviewed a letter and other documents illustrating individual consumers' experiences with the case management teams. Auditors also examined reports of successful intensive case management programs in other areas of the country, including the Madison, Wisconsin, Program of Assertive Community Treatment, which first developed and tested the principles of intensive case management.

- To assess the rehabilitation programs that received HB2003 monies, auditors toured two consumer-run programs, including one consumer recovery support

center in Prescott and one clubhouse in Pima County; and conducted site visits at two ValueOptions HB2003 clinical sites and three non-HB2003 ValueOptions clinics. Auditors also interviewed four NARBHA, two CPSA, and ten ValueOptions consumers; interviewed nine ValueOptions' rehabilitation specialists; reviewed a videorecording of consumer and staff speeches at a peer support training graduation ceremony; and reviewed a consultant's report regarding rehabilitation services in Southern Arizona. In addition, auditors interviewed officials and six vocational counselors at the Department of Economic Security Rehabilitation Services Administration (RSA) and examined the Interagency Service Agreement between RSA and the Division of Behavioral Health Services that explains each agency's responsibilities.

This audit was conducted in accordance with government auditing standards.

The Auditor General and staff express appreciation to the director of the Department of Health Services, and management and staff of the Division of Behavioral Health Services and its Regional Behavioral Health Authorities for their cooperation and assistance throughout the audit.

FINDING 1

Consumers benefited from housing programs

According to their quarterly reports to the Division, the RBHAs used $13.6 million in HB2003 monies, or approximately 40 percent of the total spent as of June 30, 2003, to develop housing and related programs. RBHAs developed 334 new housing spaces, which was an increase of about one-fourth over the roughly 1,250 spaces previously available. The impact of the housing program varied by RBHA and by consumers' level of functioning. In general, consumers with more severe levels of dysfunction showed the greatest improvement from living in the new housing. Consumers with slight levels of dysfunction showed little or no change. However, since two RBHAs' new-housing consumers had not lived in their homes long enough to be included in this audit's analysis, the Division should conduct its own analysis of the housing program's impact and provide technical assistance to the RBHAs based on the results of its research.

Housing important for consumers with serious mental illness

According to research, stable housing is an important factor in a consumer's recovery from mental illness. Consumers without stable housing focus on meeting their basic needs, and cannot focus sufficiently on their recovery. However, people with a serious mental illness commonly cannot attain suitable housing, and even lose their homes and become homeless. For example, issues such as criminal records and substance abuse can disqualify people as renters or borrowers, and increase their likelihood of becoming homeless. According to a housing plan written by two state agencies, Arizona also has a shortage of affordable housing for lower-income people, which includes many individuals with serious mental illness. This plan suggests that 17,000 low-income Arizonans with severe and persistent mental illness are at risk of becoming homeless.[1] Additionally, the Division estimates that there are at least

Stable housing is an important factor in recovery from mental illness.

1 Department of Commerce, Department of Economic Security, FY 2000-2004 State of Arizona Consolidated Plan.

1,500 individuals with a serious mental illness who are homeless in Maricopa County, and another 750 individuals who lack adequate and/or safe housing.

Case Example

J.O. has been in the mental health system for more than 20 years and had been separated from her family for years. During the past year, J.O. had various psychiatric relapses. Her symptoms included delusions and hallucinations, including a fear that she was being poisoned, resulting in her discontinuing her medications. The clinical team worked on trying to build enough trust to allow for referral to multiple programs that could help her. J.O. was placed in HB2003 housing, and received home and self-management skills training. She stabilized on her medications, participated in activities outside her home, and performed her daily activities with greater skill. She had not experienced a psychiatric relapse in 8 months as of August 2003. She left her HB2003 housing only because her physical health has deteriorated and required a higher level of nursing care.

Research shows that people with a serious mental illness need housing that is coordinated with other support services. For example, one national expert reports that people with a serious mental illness need access to an array of residential options offering varying levels of supervision, coordinated with other recovery support services, to achieve the highest level of self-sufficiency. A recent study at the University of Arizona compared outcomes for persons in housing that provides daily on-site treatment services with persons in independent housing. The study looked at various outcomes including hospitalization, use of emergency rooms or crisis services, and time served in jail, and found that residents in both types of housing fared about the same. However, those in the independent housing had longer stays in their original placement and were less likely to experience an episode of homelessness.

Further, consumers should have some say in the decision to live in either supervised or independent housing. In one study, consumers who were given a choice among housing options reported greater housing satisfaction, improved housing stability, and greater psychological well-being. Another study found that lack of consumer choice can actually accelerate homelessness because consumers may choose the relative independence of the streets to the restrictions of a highly structured residential facility. One theory to explain this phenomenon is that choice provides opportunities for people with serious mental illness to experience a sense of control over life events.

Decisions in two lawsuits confirm the State's responsibility for providing community housing to persons with serious mental illness. First, the 1996 Maricopa County Superior Court-approved exit agreement for the *Arnold v. Sarn* lawsuit requires the Division to provide an array of flexible community housing options for people with serious mental illness, and the 1998 supplemental agreement required the Division

to develop a housing strategic plan.[1] Similarly, the 1999 U.S. Supreme Court decision in *Olmstead v. L.C.* prohibits keeping disabled persons in institutions unnecessarily and requires states to provide community-based placements to persons who might otherwise be institutionalized.[2]

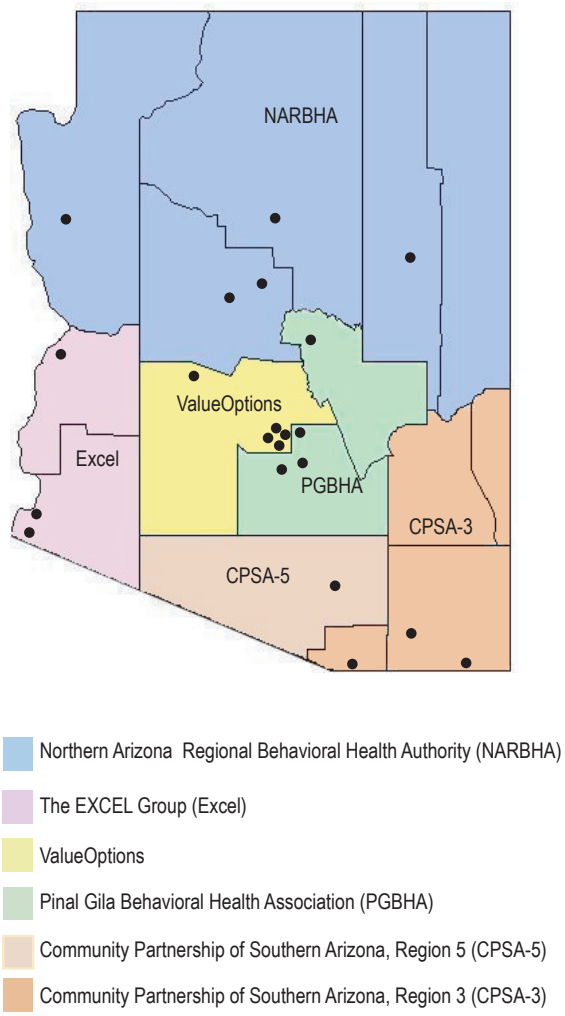
Housing and housing support provided

To support the goals of HB2003, the RBHAs reported that they spent more than $13.6 million developing a number of housing programs to increase participants' self-sufficiency either by providing more independent housing or helping them maintain existing housing.

HB2003 monies used to acquire variety of housing—The RBHAs and their subcontracted service providers reported using approximately $10.6 million of the HB2003 monies to buy or build houses and apartments at 39 sites in 21 cities around the State. The new housing provides 334 additional beds, an increase of about one-fourth over the Division's approximately 1,250 previously available beds as reported by the Division and its RBHAs.[3] Figure 2 shows the general locations of the new housing, and Appendix 3 (see page a-xli through a-xliii) provides detailed information about the locations, types, costs, opening dates, and housing occupancy.

Altogether, the RBHAs had placed 272 HB2003 consumers in the new housing by September 30, 2003 (see Table 4, page 16). In addition, 96 other tenants were placed in HB2003 housing, including children of the HB2003 consumers and other persons with serious mental illness not designated as HB2003 participants. The first tenant

Figure 2: House Bill 2003 Housing Locations by Regional Behavioral Health Authorities
As of June 30, 2003



Source: Auditor General staff analysis of data provided by the Arizona Department of Housing and the Regional Behavioral Health Authorities.

1 160 Ariz. 593; 775 P.2d 521; 1989, Maricopa County C-432355.

2 *Olmstead v. L.C.*, 119 S. Ct. 2176 (June 22, 1999).

3 The number of beds previously available is an approximation because persons with serious mental illness may qualify for other low-income housing such as U.S. Department of Housing and Urban Development (HUD) program housing. In addition, some available beds are occupied by family members of persons with serious mental illness.

Table 4: Number of HB2003 Housing Consumers by RBHA
February 1, 2001 through September 30, 2003

	Number of Consumers in HB2003 Housing	Number of Consumers Receiving Housing Assistance Monies[1]	Total Number of Housing Consumers
CPSA-5	35		35
Excel	77		77
NARBHA	11		11
PGBHA	22	115	137
ValueOptions	127	1,189	1,316
Total	272	1,304	1,576

[1] Column includes housing assistance, move-in assistance, and community tenure support programs.

Source: Auditor General staff analysis of RBHA program enrollment rosters for the period February 1, 2001 through September 30, 2003.

moved into an Excel apartment complex in Yuma on February 5, 2001, but most projects did not open until 2002 or 2003. (See Appendix 3, pages a-xli through a-xliii.)

Generally, the new housing falls into two broad categories:

- Supervised Housing (93 beds)—Two RBHAs—NARBHA and ValueOptions—developed supervised housing, which is designed to be individualized and integrated into the community, in the most typical and least-restrictive setting possible. The consumer's supervisory needs can range from individuals who can manage noncrisis issues for 1 or 2 days until a scheduled staff visit, to individuals who require substantial support and skill training in a structured environment. These 15 new houses and apartments can house a maximum of 93 individuals.

ValueOptions house providing 24-hour supervised living.

- Independent Living (241 beds)—All five RBHAs developed independent living options, which include both apartments and single-family houses. These are settings where an individual can live without on-site supervision from mental health staff. The 24 new HB2003 sites can house a maximum of 241 individuals.

Excel apartment complex providing independent living.

Since self-sufficiency is the HB2003 program's goal, consumers must pay rent to live in the new housing. Generally, monthly rent is 30 percent of the consumer's monthly income. This amount matches federal guidelines for affordable low-income housing. These monies are used to maintain the housing. Consumers in some independent living sites can bring their families to live with them, just as they would if they were renting on their own. In addition, consumers sign a lease and must abide by its terms and restrictions. Consumers can remain in the housing as long as they choose, unless they violate the terms of the lease. Tenure in housing is an important aspect of housing stability.

Other programs support consumers in community housing—Two RBHAs—ValueOptions and PGBHA—used part of their HB2003 monies for other housing-related services. They had served 1,304 consumers through these other housing-related programs by September 30, 2003 (see Table 4). ValueOptions allotted approximately $3.8 million for an in-home housing assistance program that provides training and assistance in daily living skills such as meal preparation, housekeeping, budgeting, and social and recreational activi-

ties to most of its HB2003 housing participants. In addition, ValueOptions and PGBHA set aside some funding to help consumers remain in existing community housing or make the transition from homelessness to housing. Specifically, ValueOptions allotted $500,000 for a move-in assistance program to help consumers pay expenses such as security and utility deposits. ValueOptions also allocated $210,000 for a community tenure program that helps consumers keep their homes by paying rent or utilities if they get behind in their payments. Both programs have a dollar limit from $1,000-$1,500 per consumer and are one-time-only. PGBHA spent about $122,500 on its housing assistance program.

Consumers benefit from housing programs

Consumers at ValueOptions and Excel benefited from the HB2003 housing.[1] These consumers showed greater improvements in a variety of performance measures than did two comparison groups. (See Appendix 2, page a-ix through a-xiv, for more details on the comparison groups.) When controlling for functioning level, Value Options showed effects for all functioning levels, while Excel showed effects for more moderately functioning consumers. Excel's higher-functioning consumers showed deterioration in their functioning levels. However, consumers in both RBHAs generally either maintained or increased their level of independence.

Continued analysis of the HB2003 housing's impact is needed. Auditors' analysis was performed with limited data from ValueOptions, Excel, and CPSA-5 consumers.[2] Consumers in the other two RBHAs generally had not moved into the new housing early enough to be included in this analysis. Further, some outcomes, such as hospitalizations and arrests, occurred so rarely among consumers that auditors were prevented from drawing meaningful conclusions.

Consumers' functioning improved in new housing—Consumers who lived in the new housing for at least 6 months made greater gains on a variety of performance measures than consumers on a waiting list for the new housing. Several performance measures were identified for evaluating the outcomes of the housing program, and HB2003 consumers showed more improvement than their counterparts in two comparison groups on most measures, as shown in Table 5 (see page 18). Gains for consumers in the new housing occurred on all six examined dimensions of the Arizona Level of Functioning Assessment (ALFA), with the strongest and most consistent gains in the family and living environment dimension, as shown in Table 8 (see Appendix 2, page a-xv).

As shown in Table 9 (see Appendix 2, page a-xvi), when results are analyzed by RBHA, only ValueOptions consumers had statistically significant gains in most meas-

1 The evaluation time frame spanned approximately 24 months, from the first time a consumer moved into HB2003 housing in February 2001 through January 31, 2003.

2 The number of consumers at CPSA-5 was too small to make meaningful comparisons across RBHAs. However, the CPSA-5 consumers are included in state-wide results.

Table 5: **Housing**

Progress of HB2003 Housing Consumers
and Two Comparison Groups
by Performance Measure[1]
July 1, 2000 through January 31, 2003

Performance Measure and Expected Outcome	Consumers in HB2003 Housing Compared To: ValueOptions Consumers in Non-HB2003 Housing	Consumers in HB2003 Housing Compared To: ValueOptions Homeless Consumers
Arizona Level of Functioning Assessment (ALFA)		
Family, living environment (increased safety)	●	●
Feeling, affect, mood (reduced symptoms)	○	◉
Interpersonal relations (increased social adjustment)	◉	○
Self-care (increased self-sufficiency)[2]	◉	◉
Substance abuse (reduced substance abuse)	◉	○
Thinking and cognition (reduced symptoms)	○	◉
Clinical Global Impression (CGI)		
Global improvement (reduced symptoms)[2]	○	○
Severity of symptoms (reduced symptoms)[2]	○	○
Housing independence (increased self-sufficiency)[2]	NA	NA
Hospitalization (reduced hospitalizations)		
Rate of admissions	NA	NA
Length of stay	NA	NA
Arrests (reduced arrests)	NA	NA

Symbol key:[1]
- ● Improved much more than comparison group
- ◉ Improved more than comparison group
- ○ No difference between groups
- ✖ Worsened more than comparison group
- NA not available

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1 See Appendix 2, Tables 10 and 11 (pages a-xvii and a-xviii), for detailed results on each measure. Differences greater than 10 percent of the total available points on the measure (5 out of 50 for ALFA; 0.7 out of 7 for CGI) are shown as improved much more than comparison groups. Differences that were not statistically significant are shown as no difference between groups.

2 Not a performance measure identified by the Division and the RBHAs for housing.

Source: Auditor General staff analysis of assessment data provided by BHS and the RBHAs for the period of July 1, 2000 through January 31, 2003.

ures of symptom severity. At Excel, consumers made gains only on the substance abuse dimension of the ALFA. Both ValueOptions and Excel included substance abuse prohibitions in the lease requirements for the new housing, which may help to explain the improvement on that measure at both RBHAs.

At ValueOptions, consumers with the most severe dysfunction before being placed in their housing showed the most dramatic gains, as shown in Table 9 (see Appendix 2, page a-xvi). On average, these consumers gained enough to move them to the moderate dysfunction range. Consumers in the comparison groups who started with the severest dysfunction also made gains (see Table 10, Appendix 2, page a-xvii), suggesting there may be a natural tendency for the most severe consumers to show improvement, but their gains were smaller than those for the consumers in the HB2003 housing. Consumers in the moderate functioning range at ValueOptions also made modest gains, and those consumers with slight dysfunction stayed stable.

At Excel, consumers in the more moderate ranges made significant gains while those classified as having only slight dysfunction remained relatively stable. There was no statistically significant change for the most severely impaired consumers at Excel, but the number of consumers in this category was relatively small.

Another scale measuring symptom severity, the Clinical Global Impression (CGI), showed mixed results for HB2003 consumers. The CGI measures the effects of psychotropic medications, and is completed by the clinician who monitors consumer medications. It includes assessments of symptom severity and improvement in their condition, and is a commonly used measure of global functioning. The differences between HB2003 consumers and the waiting list group consumers were not statistically significant, suggesting that there is no difference between HB2003 consumers and the comparison group consumers on these two scores when all three RBHAs' consumers are combined. However, ValueOptions' consumers improved on severity and stayed the same on improvement, while Excel's consumers stayed the same on severity and got worse on improvement. Results for the CGI are shown in Tables 11 and 12 (see Appendix 2, pages a-xviii and a-xix).

Consumers in new housing are independent—The final measure examined for consumers in both RBHAs' new housing showed that their level of independence remained the same or improved after entering the HB2003 program. About one-third of the consumers moved into more independent housing, and about two-thirds remained at the same level of independence. Most of the consumers at Excel started and stayed at a very high level of independence. At ValueOptions, most consumers started at a lower level of independence and moved to a higher level, while those who started at the highest level of independence remained at that level.

Consumers satisfied with new housing—Auditors interviewed 14 consumers living in the new housing. Most reported satisfaction with their new housing situation,

Consumers report satisfaction with their new housing.

although two said they would prefer to live in other situations. For example, a ValueOptions consumer who lives in a four-bedroom house with three other men said he would like to be on his own, although he likes living in the house. However, a court order required him to move into a supervised setting when he left the Arizona State Hospital. One consumer told auditors he is very happy in his Excel apartment, where he has more responsibility and more freedom than he had in previous placements. He said he is learning living skills and has friends at the apartment complex, and wants to stay there. Another consumer at the same complex said he had been homeless for many years, and had felt a lot of stress in previous residential placements, but now he is comfortable and gets a good night's sleep. A consumer in a transitional facility in Yuma told auditors she had been living in her van for about 2 years, and she feels much better and suffers less from panic, anxiety, and depression.

Differences in consumers and programs may help to explain different results—Excel and ValueOptions served different consumers and accordingly designed their new housing programs differently, with Excel providing more independent living and ValueOptions providing more 24-hour supervised settings, as shown in Appendix 3 (see pages a-xxxix through a-xliii). The differences in programs and consumers may help characterize Excel's gains in comparison to ValueOptions', even though, on average, the Excel consumer had lived in the new housing longer.

In general, consumers with the most severe dysfunction made the greatest gains, but Excel's consumers are not proportionately as severe in dysfunction as ValueOptions'. Therefore, they may have been less likely to make large gains. Most of Excel's consumers were in the slight-to-moderate dysfunction range prior to move-in, while most ValueOptions' consumers were in the moderate or severe range. As shown in Table 9 (see Appendix 2, page a-xvi), Excel's gains are limited to the moderately functioning group.

In addition, most of Excel's consumers live in housing that affords them greater independence than ValueOptions' consumers, and while still integrated with services, offers fewer in-home services. Most ValueOptions consumers received services from an in-home program that trains and assists consumers in daily living activities. Further, most ValueOptions' sites are supervised housing. Excel by contrast relied more on independent housing, offering the same services to HB2003 consumers as to other consumers, though with more focus on in-home assistance. Although a recent University of Arizona study found independent housing yields similar gains to housing with more supervision, and Excel and ValueOptions were comparable for those consumers with moderate dysfunction, Excel's consumers with slight dysfunction showed a deterioration in the interpersonal relations dimension of the ALFA (see Table 9, page a-xvi).

Continued analysis important—Consumers in three RBHAs—CPSA, NARBHA, and PGBHA—generally had not moved into HB2003 housing early enough to be included in this audit's analysis. In addition, hospitalizations and arrests are rare

among the consumers in the new housing, so auditors had insufficient data to draw conclusions about those two performance measures. The Division should conduct additional analysis to follow up on the results of the Auditor General's analysis and draw additional conclusions about the impact of HB2003 housing programs and services. Specifically, because auditors found differences in the impact of the new housing between the RBHAs included in this analysis, the Division should analyze performance indicator data regarding the other three RBHAs when their consumers have lived in the new housing at least 6 months. In addition, the Division should analyze the program's impact on hospitalization and arrests for consumers at all the RBHAs that invested in housing once sufficient data is available. Finally, the Division should work with Excel to determine what outcomes should be expected for consumers in Excel's independent housing and analyze the impact of Excel's program against those expected outcomes. The Division could conduct these analyses as part of the evaluation it plans to conduct once the RBHAs have spent all their HB2003 monies. Based on analysis results, the Division should develop any needed recommendations and provide technical assistance to improve the RBHAs' housing programs for persons with serious mental illness.

Programs appear well-designed and help address housing gap

Although the programs' impacts on consumer functioning and symptom severity were modest, the planning and oversight mechanisms that the Division put in place prior to approving the RBHAs' various HB2003 housing projects appear to be appropriate. For example, the Division worked with the RBHAs to establish housing program guidelines based on a national housing model for persons with serious mental illness and reviewed the RBHA projects according to these standards. The Division also involved the Arizona Department of Housing (Housing) in its decisions regarding property acquisition because of its experience in developing public housing. The projects have also helped the Division address legal requirements set forth in the *Arnold v. Sarn* litigation and meet goals that it set forth in the court-approved housing strategic plan.

The Division involved the Arizona Department of Housing in its decisions regarding property acquisition.

Division monitors programs' adherence to standards—The Division and the RBHAs developed housing program measures based on a national model for housing programs. Every 6 months, each RBHA must assess each housing project according to the measures and report to the Division on each site's fidelity to the model. The report scores each program on five areas: choice of living arrangements, separation of housing and service staff, residents' rights of tenancy consistent with landlord/tenant law, residents' choice of accepting behavioral health services, and social/recreational activities. According to division officials, all the open housing sites inspected through July 17, 2003, currently meet these standards.

The average cost of each new bed in the program is $3,314 per year for 15 years.

Department of Housing helps acquire and protect assets—Prior to using any HB2003 monies to acquire housing, the Division entered into an interagency agreement with the Arizona Department of Housing for technical assistance. The Division paid Housing $228,000 for its services. Specifically, Housing helped each RBHA identify its goals and obtain HB2003 properties. Housing provided an application package, which the RBHA and/or service provider filled out prior to making any purchase. Housing staff reviewed the application and toured each prospective site, considering issues such as location, price, and condition of the structure prior to approving the application. After housing officials approved the application, they forwarded it to the Division for review. The Division considered other issues, such as sustainability, before approving the application and releasing monies for the purchase.

In addition to assisting with the purchasing process, Housing also helped some RBHAs use their HB2003 funds as a match to obtain monies from other sources, such as the United States Department of Housing and Urban Development's Supportive Housing Programs, and the State Housing Trust Fund. Altogether, the RBHAs obtained an additional $5 million from these sources and were able to purchase more housing for individuals with serious mental illness.

RBHAs used HB2003 monies to obtain additional financial support.

Finally, to protect the State's investment, Housing worked with the Attorney General's Office to develop use restrictions specifically for the HB2003 housing. These 15-year use restrictions require the projects to be used exclusively for housing adults with serious mental illness. If the RBHA or its subcontractor does not conform to the restrictions, the State can take possession of the property by declaring the agency in default of the contract. While the restrictions are in place, Housing will inspect the housing sites annually. After 15 years, the State lifts the restrictions, and the RBHAs or service provider agencies will own the properties outright.

The Division and its RBHAs should continue to work with Housing to find funding for additional housing projects in Maricopa County and the rest of the State, as long as the Division's analysis results indicate the programs are having an impact. Those funds could then be matched to other federal or state funds, similar to the methods used on several HB2003 housing projects.

Housing helps address *Arnold v. Sarn* agreement—Finally, the housing also helped the State address the terms of the *Arnold v. Sarn* exit agreement and the housing strategic plan required by the agreement. For example, the agreement required the Department to provide 300 community living arrangements for individuals living in supervisory care homes and/or board and care homes. Most of ValueOptions' 109 beds were targeted to serve the priority populations identified in this exit agreement, such as those identified above. Likewise, the housing strategic plan proposed developing a plan to fill housing gaps for people with serious mental illness. The Division and ValueOptions report using HB2003 funding to partially fill the identified housing gaps. However, despite the addition of HB2003 housing, the

Division estimates that more than 2,000 people in Maricopa County, as well as people in other urban and rural regions, still need housing.

Recommendations

1. The Division should conduct its own impact analysis of HB2003 housing programs and services. Specifically, the Division should:

   a. Assess consumers' progress at CPSA, NARBHA, and PGBHA after their consumers have lived in the new housing for at least 6 months.

   b. Determine the HB2003 housing programs' impact on hospitalization and arrests once sufficient data becomes available.

   c. Work with Excel to determine what outcomes should be expected for consumers in Excel's independent housing, and analyze the impact of Excel's housing program against those expected outcomes.

   The Division could conduct the analyses identified above as part of the HB2003 program evaluation it plans to conduct once the RBHAs have expended all of their HB2003 monies.

2. The Division should develop recommendations and provide technical assistance to the RBHAs to improve consumer housing based on the results of its research.

FINDING 2

Consumers show modest gain from intensive case management programs

The RBHAs used $12 million of HB2003 monies, or 35 percent of total spending as of June 30, 2003, to develop intensive case management teams. These teams provide a range of case management and other services, often at the consumer's home or in other community settings. HB2003 consumers made modest improvements in symptoms, while a comparison group stayed the same or worsened. Further, among those consumers with the most severe symptoms, greater gains are apparent. Only one RBHA, PGBHA, did not show expected gains. The RBHAs plan to carry the programs forward using different funding and create new programs based on the HB2003 model. These plans to continue the case management model developed with HB2003 monies increase the importance of the Division's and RBHAs' follow-up evaluations.

Intensive case management teams developed

To support HB2003 goals of supporting recovery and helping people with serious mental illness achieve the highest level of self-sufficiency, four RBHAs established new intensive case management teams.[1] Intensive case management teams provide a range of services, including substance abuse and vocational counseling, medication management, and life-skills training. These teams differ from traditional case management in their staffing structure, caseload size, and frequency of contact. In addition, team members provide many services directly instead of coordinating all services through other providers, as in traditional case management. Several research studies on Assertive Community Treatment (ACT), a form of intensive case management, have linked this approach with decreased symptom severity, fewer hospitalizations, and increased life satisfaction. The RBHAs report using $12 million in HB2003 monies to pay for training and consultation to establish the teams, team member and other staff positions, and services provided by the teams.

Four RBHAs established new intensive case management teams.

1 CPSA, NARBHA, PGBHA, and ValueOptions established these teams. CPSA developed teams in both its geographic service areas. The fifth RBHA, Excel, reports that it used all its HB2003 monies for its housing program and transportation.

The RBHAs developed two main types of teams:

- **High-intensity case management teams**—All four RBHAs developed teams that deliver high-intensity case management, often in community settings such as the consumer's neighborhood or at an employment site. The RBHAs and their providers established a variety of teams that incorporate some, though not all, features of the ACT model. Each RBHA uses teams of behavioral healthcare professionals and technicians such as housing, rehabilitation, or vocational, substance abuse, and living skills specialists to provide highly individualized, direct services. For example, Superstition Mountain Mental Health Center, a PGBHA provider, has a high-intensity case management team that includes a living skills specialist who teaches cooking and nutrition classes and other skills that allow consumers with disabilities to live more independently. At one CPSA provider, the high-intensity case management team includes a registered nurse with substance abuse treatment experience. Team services are available to some providers' consumers 7 days a week, 24 hours a day, while other providers rely on their existing crisis system for after-hours services. Low caseloads—as few as 60 consumers per case management team at ValueOptions and PGBHA, or 12 consumers per staff member—enable the teams to provide this intensive level of service. In contrast, service providers stated that normal caseloads can range from 35 to 100 consumers per staff member. According to the Division, staffing levels and the degree of community-based services vary according to each RBHA's resources and geography.

Case Example

B.W., a 42-year-old ValueOptions consumer, had been in the care of his parents his entire adult life and required a great deal of support to get through a typical day. Since 1990, he was in and out of the behavioral health system four times. He almost constantly heard voices, and he was delusional and irritable. He experienced difficulty attending to personal hygiene and was virtually unable to live independently. However, after a year of high-intensity case management, B.W. has been free from symptoms for several months, voluntarily takes his medication, lives semi-independently, and would like to return to work.

- **Supportive treatment teams**—ValueOptions developed this less-intensive program for consumers who have achieved higher levels of functioning and require less-intensive levels of case management. Supportive treatment teams focus on maximizing community resources and coordinating care for the consumer. Providers and state agencies are much more involved in the care of these consumers, and a lesser emphasis is placed on direct services from the team. Still, consumers receive services such as substance abuse and vocational counseling, consumer advocacy, and individual therapy through these teams. Because services are less intensive than high-intensity case management, staff-to-con-

Supportive treatment teams have served the highest number of HB2003 consumers.

sumer ratios are targeted at 1:30. Supportive treatment teams account for 77 percent of all consumers enrolled in HB2003 programs. According to ValueOptions financial reports dated June 30, 2003, ValueOptions had expended approximately $1.3 million for supportive treatment teams as of June 30, 2003, compared to $3.2 million for its high-intensity case management teams.

As shown in Table 6, 2,221 consumers, or about 8.5 percent of the adults with serious mental illness in the behavioral health system, had participated in these programs as of December 31, 2002. However, not all had participated in the programs for at least 6 months and had complete assessment data, so only 1,548 (70 percent) are included in the analysis reported in this finding.

Table 6: Consumers Served by RBHAs' Intensive Case Management Teams As of December 31, 2002

RBHA	High-Intensity, Community-Based Teams	Supportive Treatment Teams
CPSA-3	44	
CPSA-5	188	
NARBHA	128	
PGBHA	46	
ValueOptions	94	1,721
Total	500	1,721

Source: Auditor General staff analysis of RBHA program enrollment rosters as of December 31, 2002.

The RBHAs report using HB2003 monies to pay for training and consultation in preparation for setting up the teams, as well as to pay for staff positions and consumer services. For example, NARBHA contracted with the South Carolina Center for Innovation in Public Mental Health for training and consulting services on a high-intensity case management model for rural areas. Both PGBHA and ValueOptions contracted with experts to provide training on intensive case management. In addition, three of the RBHAs used HB2003 monies to pay for intensive case management team member positions. According to the RBHAs and providers, team members provide direct services such as substance abuse and vocational counseling, daily living skills training, and medication management.

New case management programs benefit consumers

Consumers treated by the new intensive case management teams made modest improvements in their symptoms overall, but consumers with more severe dysfunction prior to entering the new program showed more marked gains.[1] The Division and the RBHAs identified several performance measures for evaluating the outcomes of the intensive case management programs, as shown in Table 7 (see page 28). Consumers who participated in the new programs, in contrast to a comparison group, showed progress on most measures of functioning as a result of the intensive case management they received. However, one RBHA's consumers did not show the same success as the other RBHAs' consumers; therefore, the Division should examine the causes for this RBHA's lack of significant results.

1 The evaluation time frame spanned approximately 24 months from the time of earliest enrollment in February 2001 through January 31, 2003.

Table 7: Progress of HB2003 Intensive Case Management and Comparison Group by Performance Measure[1] July 1, 2000 through January 31, 2003

Performance Measure and Expected Outcome	ValueOptions High-Intensity, Community-Based Case Management Compared to ValueOptions Comparison Group
Arizona Level of Functioning Assessment (ALFA)	
Family, living environment (reduced symptoms)[2]	⦿
Feeling, affect, mood (reduced symptoms)	⦿
Role performance (reduced symptoms)	○
Self-care (reduced symptoms)[2]	⦿
Thinking, cognition (reduced symptoms)	⦿
Clinical Global Impression (CGI)	
Global improvement (reduced symptoms)	○
Severity of symptoms (reduced symptoms)	●
Hospitalization (reduced hospitalizations)	
Rate of admissions	●
Length of stay	NA
Arrests (reduced arrests)	⊗
SF-12 Health Survey (reduced symptoms)[2]	⦿

Symbol key:
- ● Improved much more than comparison group
- ⦿ Improved more than comparison group
- ○ No difference between groups
- ⊗ Did not improve as much as comparison group
- ✖ Worsened more than comparison group
- NA not available

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1 See Appendix 2, Tables 15, 17, 19, 20, and 23 (pages a-xxii through a-xxx) for detailed results on each measure. Differences greater than 10 percent of the total available points on the measure (5 out of 50 for ALFA, 0.7 out of 7 for CGI) are shown as improved much more than the comparison group. Differences that were not statistically significant are shown as no difference between groups.

2 Not a performance measure identified by the Division and the RBHAs for intensive case management.

Source: Auditor General staff analysis of program outcomes and assessment and service encounter data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003, for HB2003 consumers; and assessment and service encounter data provided by BHS for the period January 1, 2000 through April 30, 2002, for the comparison group.

Consumers showed modest improvement in functioning—On average, consumers in the HB2003 intensive case management teams showed modest gains (about two points) on five different dimensions of the Arizona Level of Functioning

Assessment (ALFA), while a comparison group of consumers either stayed the same or worsened. As shown in Table 13 (see Appendix 2, page a-xx), consumers who entered the program at the severe dysfunction level made greater gains, progressing to the moderate dysfunction level after spending at least 6 months in the new program. In contrast, consumers who entered at the moderate level showed less improvement, and those who entered at the slight dysfunction level lost ground on most measures. Table 14 (see Appendix 2, page a-xxi) shows results by RBHA for all five ALFA dimensions.

Consumers rated at severe dysfunction levels at enrollment improved to moderate dysfunction after 6 months.

Comparison group consumers lost ground on the ALFA measures, on average, while some in the high-intensity case management teams remained stable and others slightly improved. The comparison group consisted of ValueOptions consumers who were eligible for high-intensity case management, but instead received traditional case management during the time auditors studied. As shown in Table 15 (see Appendix 2, page a-xxii), comparison group consumers whose ALFA scores started in the severe dysfunction range showed some improvement. However, their scores remained in the severe range. In contrast, consumers on the high-intensity teams who started in the severe range moved to the moderate range.

Consumers stable on symptom severity—A measure of symptoms, the Clinical Global Impression (CGI), showed mixed results on two dimensions—global improvement and severity of symptoms. The CGI measures the effects of psyghotropic medications, and is completed by the clinician who monitors consumer medications. On the global improvement dimension, only CPSA-3 and CPSA-5 showed positive results, while PGBHA's consumers lost ground. One RBHA, ValueOptions, showed improvement on the severity of symptoms dimension, and this improvement was greater for these consumers than for the comparison group. However, only one other RBHA's consumers showed improvement. Tables 16 and 17 (see Appendix 2, pages a-xxiii through a-xxiv) summarizes results of the CGI.

Consumers reported improvement on health survey and reduced or stable arrests—Generally, consumers showed improvement on the health survey and reduction or stability in arrest measures, although consumers in the comparison group showed greater improvement in self-reported arrests. Specifically:

- Health survey shows consumers reported improvement—Most consumers participating in intensive case management programs showed some improvement in their mental health as measured by the SF-12 health survey. The SF-12 asks consumers direct questions about their health status, so it reflects their own perceptions rather than a clinician's. For example, consumers indicate how often emotional problems interfere with their daily life. Results of this measure indicate that, on average, consumers in nearly all the intensive case management teams reported better mental health functioning after participating in the program for at least 6 months. As shown in Table 18 (see Appendix 2, page a-xxv), RBHAs showed improvement on the health survey. Consumers in the comparison

Case Example

K.S., a PGBHA consumer, is a senior citizen who has significant health problems. High-intensity case management services have helped her stabilize her mood so that she is more active and better able to care for herself.

group did not make similar improvements, as shown in Table 19 (see Appendix 2, page a-xxvi).

Consumers report that the intensive case management teams help them function well in the community.

Consumers interviewed during the audit also told auditors that they felt the new services had helped them. For example, consumers reported that the team helps them function well in the community, provides them with opportunities to socialize, and helps them with their daily living needs. One consumer, who is depressed, has epilepsy, and is an alcoholic, reported that his involvement with an intensive case management team saved his life. He lives independently with the help of the intensive case management team and attends chemical dependency classes. Case managers and other team staff auditors interviewed reported that intensive case management services help clients stabilize, gain a better understanding of their illness and its impact, and gain a better understanding of their symptoms.

- **Reduced or stable arrests**—The Division and the RBHAs identified a reduction in arrests as a performance measure for the intensive case management programs. Two of the four RBHAs were able to provide complete enough information for analysis. Overall, the total number of consumers arrested and the number of arrests prior to participation in HB2003 programs is low. ValueOptions' high-intensity case management consumers showed a reduction in the number of consumers arrested, but the comparison group consumers showed a greater reduction (see Table 20, Appendix 2, page a-xxvii). The number of consumers arrested remained stable at CPSA-3 and CPSA-5. ValueOptions' high-intensity case management consumers showed a reduction in the total number of arrests, as shown in Table 21 (see Appendix 2, page a-xxviii), although again the comparison group showed a greater reduction than this group. Although arrest data is self-reported, the comparison group's better performance on this measure suggests that the Division should work with the RBHAs to determine why the HB2003 programs did not have a greater impact. As a followup to this analysis, the Division should analyze arrests for all four RBHAs, since only two of the four RBHAs had sufficient data to be included in this analysis. The Division could do this as part of its planned evaluation.

Arrests are a rare event among HB2003 consumers.

Hospitalizations remained stable for most groups—Auditors examined hospitalization in two ways: the number of consumers hospitalized, and hospitalization rate (the number of hospitalizations per 100 consumers). The number of consumers hospitalized remained unchanged for most RBHAs and for the comparison group. One RBHA, NARBHA, showed an increase in the number of consumers hospitalized, as shown in Table 22 (see Appendix, page a-xxix). The rate at which consumers were hospitalized per 100 consumers remained unchanged for two of the four RBHAs, while the comparison groups deteriorated, as shown in Table 23 (see Appendix 2, page a-xxx). One RBHA, CPSA-5, showed an improvement in the hospitalization rate, and NARBHA's rate worsened.

Auditors could not compare length of stay in the two time periods because hospitalization records in the later period were incomplete. Because reducing hospitalization is an important goal for intensive case management programs, the Division should evaluate the programs' impact on length of stay once data regarding discharge dates is complete. This could be done as part of the Division's planned evaluation.

Length of time in program did not affect ALFA results—Consumer outcomes did not consistently improve when consumers in intensive case management programs for longer periods were compared to those in the programs for less time. For example, consumers in the ValueOptions high-intensity case management teams for 12 months showed improvement on all three ALFA dimensions identified as performance measures. However, consumers who had been in the teams for 18 months had little to no change in their functioning, on average, from their functioning prior to entering the program. In contrast, consumers on ValueOptions' supportive treatment teams showed about the same improvement in functioning whether they had been in the program for 6, 12, or 18 months. Further, at NARBHA, only consumers who had been in the program for 18 months showed improvement on two of five measures.

There are several possible reasons why the length of time in HB2003 intensive case management programs did not consistently affect consumer symptoms. For example, for many disorders, the long-term goal of treatment is to prevent future recurrences of symptoms, according to the American Psychiatric Association.[1] The Division's Chief of Clinical Services stated that due to the cyclical nature of mental illness, at many points in treatment, prevention of regression and promotion of stability can be considered a positive outcome. Further, division and RBHA officials have also suggested that since recovery is a cyclical process in which consumers often fluctuate between getting better and worse, the results may be capturing a recovery cycle. As time goes on and consumers fluctuate in their functioning, the gains fluctuate as well.

One RBHA's consumers showed no benefits from program—One RBHA, PGBHA, had almost no positive results for its consumers in any of the outcomes measured. Specifically, except for those with severe dysfunction on the family and living environment dimension, PGBHA's consumers did not improve on any of the five ALFA measures examined. Further, they showed no change on one CGI dimension and a slight worsening on the other, had no change in their SF-12 health survey results, and no change in their hospitalization rate.

Division and PGBHA officials could not explain this lack of success. PGBHA established high-intensity case management teams similar to those at ValueOptions but did not show similar results. Although the number of consumers included in the ALFA analysis was relatively small, as only 22 PGBHA consumers met the inclusion crite-

1 Gabbard, Glen O., M.D., Editor-in-Chief, *Treatments of Psychiatric Disorders.* Third Edition, 2001.

ria for this analysis, other analyses with comparable or even smaller numbers of participants showed results. PGBHA's consumers did not differ from ValueOptions' high-intensity case management team participants in the beginning level of severity. In addition, although PGBHA experienced difficulty in meeting staffing standards, other RBHAs had the same difficulties, yet their consumers showed improvement.

The Division should examine the causes for the lack of significant results for PGBHA's consumers. Again, the Division could do this as part of its planned program evaluation.

Program design has some elements of successful models

The Division and the RBHAs jointly developed guidelines for HB2003 intensive case management programs, using other successful intensive case management models as a guideline. Research has shown that intensive case management programs that contain certain program elements are associated with positive consumer outcomes. During the planning stages prior to implementing the HB2003 programs, the Division formed a literature review group to analyze research on intensive case management. The group, which included staff from the Division, CPSA, PGBHA, and ValueOptions, researched various intensive case management models, such as Wisconsin's Program of Assertive Community Treatment (PACT), and recommended program guidelines.[1] According to division and RBHA officials, the review group selected what they believed were the most critical elements of best practice programs for its recommendations, including guidelines for community-based treatment, staff-to-consumer ratios, and staffing levels. Further, the review group developed program-specific checklists for monitoring how well the intensive case management programs adhered to the guidelines.

Division and the RBHAs analyzed research on intensive case management, and selected elements for its program recommendations.

The RBHAs and their providers chose to implement their programs in different ways, with some adhering more closely to the PACT and similar models than others. For example, CPSA adapted the PACT model by leaving out requirements for daily team meetings and a minimum percentage of consumer contact occurring in the community instead of at clinical facilities. PGBHA adopted a rural version of Wisconsin's model, which allows the use of alternatives for crisis service instead of team member services outside of business hours. In addition, only two providers told auditors that they require a minimum number of consumer contacts per week, a common requirement in other models, but omitted from the guidelines developed by the Division and the RBHAs.

As the RBHAs monitored their intensive case management programs, they found that the programs struggled with consistently meeting staffing-level guidelines.

[1] NARBHA staff did not participate in the review group, but modeled their program after a rural high-intensity case management program in South Carolina.

However, as the results generally indicate, the RBHAs and providers have successfully used creative approaches to meet the spirit of the guidelines. For example, the guidelines require intensive case management teams to have a master's-level team leader, but these positions have been vacant at some reviews due to staff turnover. To fulfill the team leader staffing guidelines, one service provider hired a different master's-level staff to serve as a clinical consultant to the team. In another case, a provider did not have a vocational rehabilitation specialist on its intensive case management team. To remedy the problem, the provider trained one of its existing staff members to fill the position.

RBHAs plan to continue programs

Most HB2003 case management programs will continue with modifications.

The RBHAs plan to continue HB2003 case management programs but may have to modify them. In addition, some new programs based on the HB2003 model have been developed:

- Continuation of current programs—The RBHAs plan to continue most intensive case management programs; however, some programs will be modified once HB2003 funds are no longer available. Some RBHAs' teams will operate with decreased staffing levels. For example, ValueOptions plans to pay for most of its 39 HB2003-funded staff positions through its general budget, which consists of Medicaid and non-Medicaid monies, once HB2003 monies run out. However, programs can use the infrastructure, such as transportation and training modules paid for with HB2003 funds, to continue offering a model similar to HB2003. According to the RBHAs, providers plan to use other fund sources for continued services to non-Medicaid consumers and continue billing Medicaid for consumers who are eligible.

- Development of new programs—ValueOptions has expanded its high-intensity case management program to two other service sites—one in Glendale and one in Mesa. These programs are modeled after the HB2003 program, but serve non-HB2003 consumers.

Based on the results of its analysis, the Division should develop recommendations and provide technical assistance to the RBHAs to improve their intensive case management programs.

Recommendations

1. The Division should conduct its own impact analysis of HB2003 intensive case management services. Specifically, the Division should:

   a. Analyze arrests for all RBHAs that developed intensive case management programs since only two of four RBHAs had enough complete information to include in the Auditor General's analysis.

   b. Evaluate the impact on length of hospital stay once the data regarding discharge dates is complete enough for analysis.

   c. Examine the causes for the lack of significant results for PGBHA's consumers.

   The Division could conduct these analyses as part of the program evaluation it plans to conduct once the RBHAs spend all of their HB2003 monies.

2. The Division should develop recommendations and provide technical assistance to the RBHAs to improve their intensive case management programs based on the results of its research.

FINDING 3

Rehabilitation activities have increased

Three RBHAs report using HB2003 monies to provide higher levels of vocational rehabilitation and recovery support services for promoting recovery and greater self-sufficiency. RBHAs responded to HB2003's requirement to expand these services in two main ways—integrating these services into existing intensive case management programs, and expanding providers and services in their regions. Increases in rehabilitation activities at ValueOptions and CPSA helped increase participation from slightly more than 24 percent to 40 percent. The Division and the RBHAs plan to sustain the enhanced services, which are now covered by Medicaid because of the Covered Services Project's implementation in October 2001.

Rehabilitation services cover a broad spectrum and involve two agencies

Consistent with the HB2003 legislation, the Division's plan specifications allowed the RBHAs to propose using HB2003 monies for recovery support and rehabilitation programs. Using $5.4 million in HB2003 monies, or nearly 16 percent of the total spending as of June 30, 2003, three RBHAs have provided greater vocational rehabilitation and recovery support services for consumers.[1] Recovery support consists of any services intended to help consumers make progress in their recovery and includes services that help consumers live in the community. These community support services include the intensive case management and medication management services discussed in Finding 2 (see pages 25 through 34), as well as "peer support" and "friend advocacy" programs that recruit, train, and support people to provide advocacy, friendship, and support to persons with serious mental illness.

Recovery

Process helping people to participate fully in their community despite their disability. Care focuses on increasing consumers' ability to successfully cope with life's challenges, facilitating recovery, and building resilience, not just managing symptoms. Consumers and their families have meaningful choices about services and providers.

Rehabilitation services are also a part of recovery support and include a wide array of services. These services range from teaching

[1] CPSA, NARBHA, and ValueOptions reported using HB2003 monies for rehabilitation services to support the strategies discussed. PGBHA used non-HB2003 resources to integrate rehabilitation into its HB2003 case management teams. The fifth RBHA, Excel, reported that it used all its HB2003 monies for its housing programs and transportation.

Rehabilitation services include more than vocational training.

consumers basic community living skills, such as acquiring and developing the skills necessary to manage a home or provide for basic daily living needs, to helping them prepare to find and keep a job. Rehabilitation services may include encouraging consumers to get involved in volunteering and other community activities such as clubs, churches, and community organizations. They may also include attending clubhouses and consumer-run drop-in centers where consumers can meet to support each other and socialize, volunteer, engage in transitional work activities or regular employment, and actually oversee operations.

Rehabilitation services also include vocational rehabilitation services such as vocational assessment, counseling, and job placement. These services involve the Department of Economic Security's Rehabilitation Services Administration (RSA). A 1993 interagency agreement facilitates the partnership between the Division and RSA and sets forth the agencies' contractual obligations. Under this agreement, the behavioral health system provides rehabilitation services, including psychosocial rehabilitation such as living skills, training, and clubhouses; consumer-operated services; supported education; and extended supported employment. RSA provides vocational assessment services such as career exploration, career-directed education services, and employment-directed services per its federal mandate.[1] For consumers who are interested in RSA services, the two agencies combine resources every year to leverage federal monies and provide career exploration, career-related education, job placement, and other employment-related services. RSA can obtain nearly $4 from federal funding for every $1 the Division contributes. In fiscal year 2003, the Division contributed more than $1.7 million in state monies of the RSA's nearly $8.2 million budget. Under the agreement, RSA agrees to use these combined monies to develop and implement contracts with community providers to meet the vocational needs of contracts to persons with serious mental illness. CPSA also combined a portion of its HB2003 allocation with RSA federal monies to provide service providers in Southern Arizona with RSA grants to establish new employment programs.

RBHAs integrate and expand services

The RBHAs mainly pursued two strategies for improving rehabilitation and recovery support services for their consumers: integrating rehabilitation planning into clinical case management and expanding rehabilitation services availability in their respective geographic service areas. In addition, the Division and RSA have worked together to promote recovery principles in rehabilitation service planning.

Rehabilitation integrated into intensive case management—To increase consumers' participation in rehabilitation activities, the RBHAs integrated rehabilitation services into treatment planning for consumers who participate in intensive case management teams. At three RBHAs—CPSA, PGBHA, and ValueOptions—rehabili-

[1] RSA is federally mandated to provide vocational services to persons with disabilities, including persons with serious mental illness, in accordance with the *Federal Rehabilitation Act of 1973.*

tation specialists or vocational specialists were placed as members of the case management teams. According to NARBHA officials, its teams rely on vocational specialists at provider agencies. Integrating rehabilitation and vocational staff into the clinical treatment team is consistent with literature on high-intensity case management models, which recommends including these positions as part of the treatment team. The specialists help consumers identify their interests and encourage consumers' participation in rehabilitation programs. They also refer consumers to RSA and work with RSA's vocational counselors for consumers who are interested in seeking employment.

Rehabilitation specialists help consumers identify their interests in available programs.

Range of providers and services expanded—Three RBHAs—ValueOptions, NARBHA, and CPSA—report using HB2003 monies to expand the array of rehabilitation services available in their regions. These efforts are consistent with recovery principles calling for consumers to be able to choose from a variety of services, activities, and programs as part of their treatment. Specifically:

- Expanded rehabilitation provider network in Maricopa County—In accordance with the court-approved plan under *Arnold v. Sarn*, ValueOptions used HB2003 monies to expand the number of rehabilitation providers under contract. ValueOptions originally had two providers, but was able to fund six more starting July 1, 2001. One of the initial service providers—TripleR Behavioral Health—operated two clubhouses in Maricopa County and provided supported employment services. The other provider offered work adjustment services. According to ValueOptions' officials, the expanded provider network allowed it to provide additional rehabilitation and recovery support services such as home management skills training, recovery training, work exploration, an "Art Awakenings" program, supported education, and employment support services. ValueOptions also used HB2003 monies to develop a new consumer-run drop-in center in North Phoenix and enhance programs and facilities at existing drop-in centers. Auditors were unable to identify how many people were involved in activities prior to the HB2003 program because the Division did not require the RBHAs to collect this information until April 2001. However, as of October 7, 2002, ValueOptions reported that more than 3,700 of its nearly 14,000 enrolled members were involved in some type of rehabilitation activity.

- New network of centers in Northern Arizona—NARBHA reported that it used HB2003 monies to open the first consumer-operated recovery centers in its service area. In partnership with RSA, NARBHA established a network of five recovery centers under an organization called NAZCARE (Northern Arizona Consumers Advancing Recovery and Empowerment) headquartered in Prescott. According to NARBHA officials, the first center, New Hope Recovery Center in Prescott, opened in January 2002, and the remaining four opened between January 2002 and October 2002.[1] NAZCARE, a private, nonprofit community service agency certified by ADHS, employs consumers to

New Hope Recovery Center, Prescott, Arizona

[1] According to NARBHA and NAZCARE officials, one drop-in center based in Snowflake, Arizona, closed in October 2003.

Case example

L.B., a 59-year-old woman who is diagnosed with schizophrenia, reported that she spent an entire year in a psychiatric health facility and underwent electroshock therapy prior to entering the HB2003 program. Through a new recovery model program that NARBHA established with HB2003 funding, L.B. attended WRAP training. New Hope Recovery Center in Prescott hired L.B. in June 2002 to offer peer support services for other consumers. Her symptoms have greatly diminished, and she has not returned to the psychiatric facility.

manage the centers and offer peer support. HB2003 dollars funded staffing, training, operations, and facility development. At these centers, consumers can socialize, work as managers or peer specialists, and develop friendships and a support network. NARBHA reports that close to 200 persons were involved in the NAZCARE Centers during August and September 2003. As of September 22, NAZCARE reported employing a total of 13 consumer staff, and expected to hire 5 more people to fill 18 total available positions.

- **Enhanced consumer-run services and vocational system evaluation in Southern Arizona**—CPSA reported that it used HB2003 monies to purchase computers and improve facilities at two consumer-run clubhouses in Pima County. CPSA staff indicated they also provided technical assistance and guidance to the clubhouses to help them obtain status as community service agencies that can bill services to Medicaid. CPSA also reported using HB2003 monies to conduct a vocational system evaluation. CPSA initially contributed part of its HB2003 monies to RSA to provide Southern Arizona service providers with RSA grants for new employment programs. When RSA could not match HB2003 monies because of financial difficulties, they returned the unmatched monies to CPSA. CPSA and RSA subsequently used these monies to hire a consultant to assess the effectiveness of the rehabilitation service system in CPSA's two geographic service areas. The consultant assessed the system's strengths and identified areas for improvement in policy, practice and program design, and staff development. To continue these efforts, CPSA offered a training conference in March 2004 and plans an ongoing system evaluation. CPSA hopes these activities will help the region address the problems identified and improve service delivery.

The Division, RBHAs, and RSA help train consumers to work as peer support specialists.

Division and RSA promote recovery principles—Two RBHAs are working with the Division and RSA to teach consumers recovery principles, train them in different recovery strategies, and help them find employment as peer support specialists. Both NARBHA and ValueOptions are working with RSA to train consumers as peer support specialists. These specialists are trained to teach recovery principles and strategies, such as how to develop Wellness Recovery Action Plans (WRAP), a recovery tool developed by Mary Ellen Copeland, a national expert in recovery for persons with serious mental illness. Both RBHAs reported using HB2003 funding to train clinicians and consumers in WRAP and other strategies designed to promote recovery and self-sufficiency. Their service providers have also hired consumers who have been trained as peer support specialists. For example, some service providers have hired consumers to answer phone calls via warm lines, an alternative to a crisis hot line.

Division monitors programs against standards—The Division and the RBHAs developed a core set of standards for each type of rehabilitation program, based on a review of best practices. For example, they developed guidelines for the clubhouse programs based in part on standards established by the International Center for Clubhouse Development, located at the Fountain House clubhouse in New York City. Two RBHAs—ValueOptions and NARBHA—reported monitoring their subcontractors through such activities as site visits, clinical record reviews, interviews with program managers, and interviews with consumers. The Division reviewed and approved the RBHAs' monitoring plans, including a checklist the RBHAs use to monitor the ongoing adherence to the guidelines. CPSA reported monitoring its HB2003 rehabilitation activities in a different manner. For example, instead of conducting fidelity site visits at the two clubhouses that received HB2003 support, CPSA staff provided technical assistance to these two agencies, as noted previously. In addition, CPSA reported that its vocational system evaluation far exceeds the Division's fidelity requirements.

Some participation in meaningful activities increased

Consumers in two RBHAS' HB2003 programs increased their involvement in some types of meaningful rehabilitation activities.[1] Many people with serious mental illness often have nothing meaningful to do during the day—they do not socialize with others, attend school, or go to work. Thus, one important goal of the RBHAs' rehabilitation efforts under HB2003 was to increase their consumers' activity levels. Consumers at ValueOptions increased their participation in psychosocial and consumer-run activities during the period auditors examined. State-wide, consumers involved in these activities improved their interpersonal relations functioning as measured by the ALFA. Both CPSA-5 and ValueOptions' consumers showed increased participation in education, training, and transitional work activities. Most consumers showed little or no increase in paid employment, which may in part be due to RBHAs placing greater emphasis on getting people involved in any meaningful activity. A recent ValueOptions study found HB2003 participants were more involved in meaningful rehabilitation activities than other consumers, especially psychosocial rehabilitation activities. Since gains did not occur across all RBHAs, the Division should analyze rehabilitation activities at a later date, particularly the activity levels at NARBHA and PGBHA. The Division could conduct this follow-up analysis as part of its planned HB2003 evaluation.

Case Example

J.S., a ValueOptions consumer in his early 40s, moved out of a supervisory care home into HB2003-supervised housing. A shy, reserved man with schizoaffective disorder, J.S. went through the WRAP training and now takes the bus to visit the TripleR clubhouse in central Phoenix. J.S. is very happy with his clinical team and likes the clubhouse because of all the friends he has made. He has also expressed interest in learning about computers.

1 The evaluation time frame for rehabilitation services spanned 20 months from June 1, 2001 through January 31, 2003. Auditors used a shorter time frame to control for the effect of a data conversion that occurred in April 2001, which changed the way the RBHAs reported rehabilitation status.

Increase in meaningful activities varies by type of activity—More consumers became involved in activities classified as psychosocial rehabilitation and consumer-run services than in education, training, or transitional work activities, and full- or part-time employment. Specifically,

- **Involvement in psychosocial rehabilitation and consumer-run activities increased**—HB2003 program participants at CPSA-5, NARBHA, and ValueOptions increased their involvement in activities intended to improve socialization and interpersonal functioning.[1] These include social rehabilitation, skills training, clubhouse programs, volunteer work, and consumer-run drop-in centers (see Appendix 2, Table 24, page a-xxxi). Consumers at CPSA-5 and ValueOptions who were involved in psychosocial and consumer-run activities improved in their interpersonal relations functioning after spending at least 180 days in HB2003 programs. (See Appendix 2, Table 25, page a-xxxiii).

- **Limited increase in education, training, and transitional work activities**—Consumers on CPSA-5's high-intensity case management teams and those in ValueOptions traditional case management increased their participation in education, training, and transitional work activities, as shown in Table 26 (see Appendix 2, page a-xxxiii). At CPSA-5, the number of consumers involved in these activities was relatively high before HB2003, and doubled, with its consumers most often entering transitional employment programs. ValueOptions invested HB2003 monies directly in supported education services, which offer financial assistance for community college courses, GED preparation, and other education. ValueOptions offered the services to all consumers, including those participating in high-intensity, supportive treatment, and traditional case management teams.

- **Little or no change in employment**—State-wide, the number of consumers employed either full- or part-time remained low during the period examined. Only ValueOptions' supportive treatment teams showed an increase in employment (see Appendix 2, Table 27, page a-xxxiv). According to the Division, the HB2003 programs focused primarily on those individuals who were not expressing an immediate desire to enter the workforce. As the RBHAs expanded their rehabilitation services, they emphasized getting people involved in any meaningful activity, rather than focusing exclusively on paid employment. Although other rehabilitation activities may benefit a person's recovery, research suggests that they may not directly lead to paid employment. Paid employment is the highest level of independence, but moving people with serious mental illness toward greater self-sufficiency may not move them toward paid employment unless paid employment is a designated treatment or program goal. If competitive employment is the ultimate goal, research on the employment of persons with serious mental illness states that efforts should be focused on this specific goal to achieve a successful outcome.

[1] Although CPSA-5 and NARBHA showed statistically significant increases in participation, the actual number of consumers involved—only 11 between both RBHAs—is too small to be meaningful when the total number of consumers for those RBHAs is considered.

Research also suggests that rapid placement in competitive employment and providing time-unlimited, supported employment services is the most effective strategy for improving employment outcomes, although more research is recommended. Federal law defines supported employment services as ongoing support services and other appropriate services needed to support and maintain an individual in competitive work in integrated work settings.

In addition to analyzing consumers' rehabilitation activity status at the time of assessment, auditors also interviewed consumers who told auditors how the activities have helped them. For example, consumers at a CPSA clubhouse in Tucson said volunteering at the clubhouse helped them feel needed and that the clubhouse could not be run without them. The clubhouse director explained that the consumers were building skills and learning to engage with the community. In addition, auditors interviewed four Arizona State Hospital patients who spend part of their days in a ValueOptions' work program. One said, "They gave me something to concentrate on, they gave me hope." Another ValueOptions consumer said her job at a thrift store is the first job she has had, and it helps her to be proud and build her self-esteem.

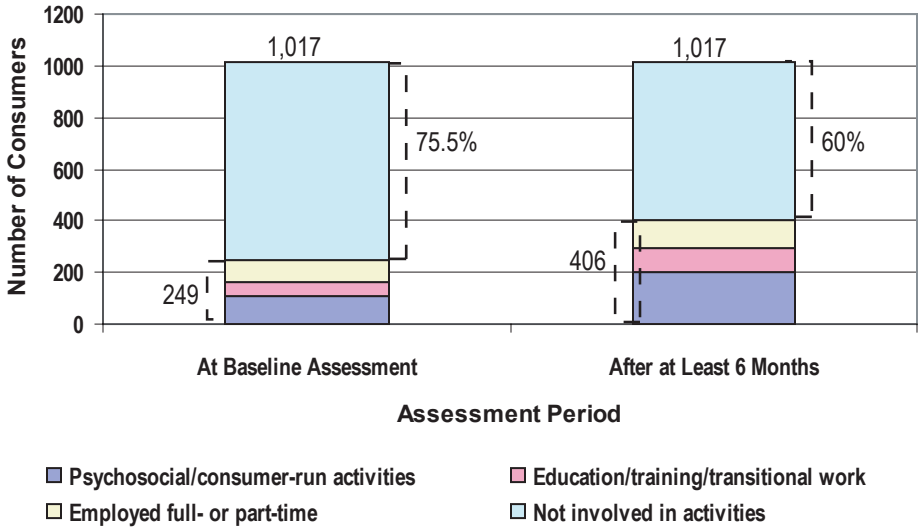
ValueOptions finds higher rehabilitation activity levels at HB2003 clinical sites compared to other clinics.

ValueOptions study found similar results—In October 2002, ValueOptions compared activity and employment levels among consumers at its 21 clinical sites. This research found higher rehabilitation activity levels at the three HB2003 sites when compared to the other 18 sites, especially in the psychosocial rehabilitation activity category.

ValueOptions officials attributed some of the consumers' increased participation levels to higher rehabilitation specialist staffing. According to ValueOptions, as of August 2003, each clinical team at the HB2003 sites had a rehabilitation specialist, for a total of 13 specialists available to consumers at those three sites. In contrast, ValueOptions reported 20 total positions across 18 non-HB2003 sites, with most sites employing just one rehabilitation specialist and two sites with no rehabilitation specialist at all. One of the plaintiffs' attorneys in *Arnold v. Sarn* identified the addition of rehabilitation specialists at ValueOptions as one of the most positive changes in years.

The Division should analyze activity levels among RBHAs—Although overall activity levels among HB2003 consumers increased from 24.5 to 40 percent, the majority of the increase occurred at just two RBHAs—ValueOptions and CPSA-5. Further, 60 percent of consumers remained uninvolved after at least 6 months of program enrollment, as shown in Figure 3 (see page 42). Division and RBHA officials reported that some consumers choose not to participate or need to address more fundamental basic needs or mental health issues before they engage in rehabilitation or employment activities. Since rehabilitation gains occurred primarily at ValueOptions and CPSA-5, the Division should analyze rehabilitation activity levels to determine if these RBHAs' consumers continue to make gains, and whether other consumers eventually increase their activity levels. The Division could do this as part

Figure 3: Rehabilitation Activity Levels
Before and After Consumers' Participation
in HB2003 Programs
June 1, 2001 through January 31, 2003



Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period June 1, 2001 through January 31, 2003.

The Fountain House clubhouse in New York City was one of the first clubhouses in the country established for people with serious mental illness. A Fountain House Model clubhouse operates under standards established by the International Center for Clubhouse Development. These standards cover membership, relationships, space, daily activities, employment, house functions, funding, and governance.

of its planned evaluation of the HB2003 program. Based on the results of its analysis, the Division should provide technical assistance to the RBHAs, and to PGBHA in particular, to identify and implement any program changes needed to continue increasing rehabilitation activity levels in their respective geographic service areas.

Differences in the ways RBHAs staffed their rehabilitation programs, as well as variations in service availability in different parts of the State, may help explain why some RBHAs showed increased participation while others did not. For example, ValueOptions, CPSA-5, and PGBHA rely on an integrated case-management approach, with a rehabilitation specialist assigned to each case management team, in contrast to NARBHA. However, one RBHA—PGBHA—had fewer rehabilitation service options that would allow consumers to participate in more activities. In September 2003, a

new drop-in center for persons who are dually diagnosed with mental illness and substance addiction opened in Casa Grande, and in October 2003, a PGBHA service provider opened a new Fountain House Model clubhouse in Apache Junction. However, the PGBHA region still has fewer rehabilitation service options than those available in other regions; in particular, consumer-run drop-in centers.

Covered Services Project will help sustain services

According to BHS and RBHA representatives, most of the HB2003 rehabilitation system enhancements will be sustainable over time due in large part to the implementation of the Covered Services Project in October 2001. This project approved rehabilitation services as Medicaid-reimbursable effective October 2001, including in-home skills training and extended supported employment. Medicaid monies will also cover peer support services, such as those that may be provided in clubhouses, consumer-run drop-in centers, or via warm lines that consumers can call. Prior to this time, such services could only be supported with state funding or other non-Medicaid monies. HB2003 monies were used to help service providers set up systems necessary to report these services to the RBHAs and pay for services for persons who are not Medicaid-eligible.

Medicaid now covers rehabilitation and peer support services.

Recommendation

1. The Division should analyze rehabilitation activity levels to determine if ValueOptions' and CPSA's consumers continue to increase activity levels, and whether other consumers eventually increase activity levels. Based on the results of its analysis, the Division should provide technical assistance to the RBHAs, and to PGBHA in particular, to identify and implement any program changes needed to increase rehabilitation activity levels in their respective geographic service areas. The Division could do this analysis as part of the program evaluation that it plans to conduct once the RBHAs spend all of their HB2003 monies.

APPENDIX 1

APPENDIX 1

HB2003 Performance Measures

HB2003 required the Department to establish performance evaluation standards to measure its effective use of the monies in the HB2003 fund. The Department, in consultation with its RBHAs, designed an evaluation plan that lists the expected outcomes and associated performance measures for each program that used HB2003 monies.[1] The audit assessed the Department's success in using the HB2003 monies to meet the performance evaluation standards.

Sources of data—The measures rely on data drawn from several sources: service encounters reported by RBHAs, regular consumer assessments conducted by clinicians approximately every 6 months, assessments by psychiatrists who monitor consumer medications, and surveys of consumers and family members. Instruments used to collect the data included:

- Arizona Level of Functioning Assessment (ALFA)—The ALFA requires the clinician to assess the consumer's functioning on nine dimensions. A former division medical director developed the ALFA by modifying a similar assessment used in another state. The ALFA's validity has not been determined through research, nor have norms been established for ALFA scores that would permit comparing a consumer's score to the typical score in the general population. In August 2003, the Division replaced the ALFA with another assessment that has established norms. However, the Division used the ALFA for all HB2003 participants both before and during participation in the HB2003 programs. The evaluation plan uses five of the ALFA's nine dimensions, selected because they were most likely to be affected by the program.[2] A higher score on the ALFA reflects a more severe level of dysfunction.

1 The Department reviewed the evaluation plan with the Auditor General's Office and submitted it to the Joint Legislative Budget Committee for approval prior to distributing any HB2003 monies to the RBHAs.

2 The four dimensions of the ALFA not included in the evaluation plan are self-care/basic living skills, social/legal, substance use, and medical/physical.

- **Family and living environment**—Measures the adequacy and safety of the living environment and the risk of exposure to violence, including homelessness, domestic violence, or family members' satisfaction with living arrangement.

- **Feeling, affect, and mood**—Measures the extent to which the consumer's emotional life is well-modulated or out of control, including appropriateness of emotional responses, thoughts of suicide or self-harm, anxiety, depression, or disturbance of mood.

- **Interpersonal relations**—Measures the adequacy with which the person develops and maintains relationships with others.

- **Role performance**—Measures the person's capacity to perform the present major role function in society—school, work, parenting, or other developmentally appropriate responsibility.

- **Thinking and cognition**—Assesses thought processes, or cognition, memory, and general intellectual functioning, including rational thinking, delusions, hallucinations, and substitution of fantasy for reality.

In addition to the five measures included in the evaluation plan, auditors examined two additional ALFA dimensions:

- **Self-care**—Measures the person's capacity to live independently or in a family setting, including the capacity to provide or arrange for needs such as food, clothing, shelter, and medical care. Auditors examined this measure because some programs provided services designed to improve consumers' living skills.

- **Substance abuse**—Measures the extent to which substance use interferes with the person's functioning. Auditors used the ALFA substance abuse dimension as a convenient substitute for other substance abuse indicators listed in the evaluation plan.

A higher score on the ALFA reflects a more severe level of dysfunction. ALFA is scored on a scale of 1 to 50, divided into five functional levels.

01-10	Superior Functioning	11-20	No Dysfunction
21-30	Slight Dysfunction	31-40	Moderate Dysfunction
41-50	Severe Dysfunction		

- **Clinical Global Impression (CGI)**—The CGI requires clinicians who monitor consumer medications to assess three elements: improvement since the consumer's first visit, severity of symptoms, and medication effectiveness relative to medication side effects. The CGI is a commonly used measure of global functioning. A higher score on the CGI reflects more severe symptoms. Medication effectiveness was not reviewed as part of the audit because it was not relevant.

Valid Values	Global Improvement	Severity of Symptoms
1	Very much improved	Normal, not symptomatic
2	Much improved	Borderline symptoms
3	Minimally improved	Mildly symptomatic
4	No change	Moderately symptomatic
5	Minimally worse	Markedly symptomatic
6	Much worse	Severely symptomatic
7	Very much worse	Among the most extremely symptomatic

- **Health Survey (SF-12, MCS-12, and PCS-12)**—The health survey asks consumers to assess their own mental and physical health status by answering 12 questions on a form called the SF-12. These answers are then weighted and combined into two overall scores for mental health (MCS-12) and physical health (PCS-12) using an algorithm provided by the publishers. According to the survey developers, the scores have a range of 0 to 100 and were designed to have a mean score of 50 for a representative sample of the national population, with a score higher than 50 indicating better than average health.

- **Consumer and Family Satisfaction Surveys, and Recovery Survey**– Separate surveys ask consumers and family members about their opinions and satisfaction with services provided to the consumer and the extent of the consumer's recovery. Auditors could not use the results of these surveys to measure improvement because of a change in survey forms during the evaluation time frame.

APPENDIX 2

APPENDIX 2

Outcome analysis and results

Summary

To assess the Division's success in using the HB2003 monies to meet agreed-upon performance standards (as described in Appendix 1, pages a-iii through a-v), auditors conducted an outcome analysis. The outcome study design examined overall mental health functioning (including behavior such as arrests and hospitalizations) for consumers with serious mental illness prior to their entrance into an HB2003 program and after the consumer obtained at least 6 months of treatment. The nature of the treatment varied according to the RBHA and program. For example, some RBHAs provided both supervised and independent housing, while others provided only independent housing. When feasible, the outcomes for program participants were then compared to a demographically and diagnostically similar comparison group. Comparison group members had similar demographic characteristics, such as age and ethnicity, and had similar mental health diagnoses and functioning levels compared to the HB2003 program participants, as shown in Tables 28 and 29 (see pages a-xxxv and a-xxxviii). Statistical tests were used to draw conclusions regarding the effectiveness of HB2003 programs based on these comparisons. The conclusions discussed in the text of this report draw specifically on Tables 8 through 27 of this Appendix.

Design and methods

Auditors employed a quasi-experimental design consisting of measuring performance standards prior to program inception (pre) and after program inception (post) as compared with comparison groups developed for two of the three programs reviewed: housing and intensive case management. Auditors were unable to develop a viable comparison group for the third program area reviewed, rehabilitation,

because the services are offered to anyone ready for rehabilitation services, no waiting lists exist, and auditors had no reliable way to identify people who had been offered rehabilitation services and declined them. The specific time frames for the defined pre and post periods are summarized below by program. Auditors used statistical tests such as the t-test of difference of means and Chi-Square tests to determine which results were statistically significant. These results are shown in Tables 8 through 27 in this Appendix. Conclusions drawn in the text of this report or summarized in tables presented within the findings are derived from the statistical analyses and tables included here.

Program participants who were included in the outcome analysis—Program participants were selected for analysis if they had (1) participated in the program for at least 6 months, and (2) received at least two assessments: a baseline assessment near the date they entered the program and one close to or after 6 months of participation in the program. Consumers who were not in the program long enough or did not have the necessary assessments were excluded from analysis. The number of program participants varied by program and by RBHA. Program participants for each program, and the methods for selecting the consumers who were included in the analysis, are described in detail below:

- Housing programs—The housing program was examined at three RBHAs: ValueOptions, Excel, and CPSA-5. The other RBHAs' consumers did not move into HB2003 housing early enough to have completed 6 months' participation in the program in time to be included in the audit's analysis. Altogether, 54 consumers from the three RBHAs had lived in HB2003 housing for at least 6 months and had completed both a baseline assessment and at least one assessment at least 150 days past the baseline. These 54 consumers were included as program participants for purposes of statistical analysis.

  Auditors identified a baseline assessment for each housing program participant. The baseline assessment for all participants occurred no more than 120 days before move-in and no more than 14 days after move-in. For the 42 participants who had an assessment within 120 days before they moved into HB2003 housing, auditors selected the assessment before move-in that was closest to the move-in date. Four consumers had assessments on their move-in dates. The remaining 8 participants had assessments within 14 days after move-in, and that assessment was selected as their baseline.

  For housing program participants, the pre-period time frame was July 1, 2000, to the date of their baseline assessment. Their post-period time frame began with the assessment closest to 180 days after they moved into the housing, but no less than 150 days after move-in, and ended January 31, 2003.

- Intensive case management programs—The intensive case management program was examined at four RBHAs: ValueOptions, NARBHA, PGBHA, and

CPSA. The other RBHA, Excel, reported using all its HB2003 monies for its housing program and transportation. In total 1,519 consumers, all of whom were enrolled in high-intensity case management teams for a minimum of 6 months, and who had completed both a baseline assessment and at least one other assessment at least 180 days past the baseline, were included for statistical analysis. At ValueOptions, consumers in two types of intensive case management programs were analyzed separately.

RBHA staff identified the assessment to be used as the baseline for each of their participants, generally choosing an assessment from the period 60 days before to 45 days after the date that the participant entered the HB2003 program. For about 40 percent of the consumers, RBHA staff identified an assessment outside that time frame as the baseline assessment. Nearly all (94 percent) of those assessments occurred within 99 days of the date the consumer entered the HB2003 program. Auditors used the baseline assessment to set the date parameters for the pre-program inception period and the post-program inception period for each participant.

For intensive case management program participants, the pre-period time frame was from July 1, 2000, to the date of their baseline assessment, and the post-period was from 180 days after the baseline assessment date through January 31, 2003.

- Rehabilitation program—The rehabilitation program was examined at four RBHAs: ValueOptions, CPSA, NARBHA, and PGBHA. Rehabilitation participants numbered 1,017 consumers, and included consumers in HB2003 high-intensity case management programs, as well as other HB2003 participants in traditional case management at ValueOptions. These participants were enrolled in at least one HB2003 program for a minimum of 6 months and had completed both a baseline assessment and at least one assessment at least 180 days later.

  Auditors identified baseline assessments for the rehabilitation participants who were enrolled in high-intensity case management in the same manner discussed earlier: RBHA staff identified the assessment to be used as the baseline for each of their participants. This was also the case for rehabilitation participants involved in ValueOptions' traditional case management, unless those individuals were enrolled in HB2003 housing. In the housing cases, auditors selected a baseline assessment, which occurred no more than 120 days before move-in and no more than 14 days after move-in. Because of a data system conversion in April 2001, rehabilitation participants were included in the analysis only if their baseline assessment occurred after June 1, 2001.

For rehabilitation program participants, each participant's pre status was measured as of the date of their baseline assessment, and the post period was from 180 days

after the baseline assessment date through January 31, 2003. Since there was no comparison group for rehabilitation participants, the pre-post analysis was the only type of analysis conducted for these participants.

Pre-post assessment—To assess changes in functioning level and symptoms from the pre-program period to the post, auditors averaged pre-period assessment values and compared them to averaged post-period values. Auditors used averages because functioning measures such as the Arizona Level of Functioning Assessment (ALFA) are prone to random variation over time because of the nature of the measures and how the assessment is implemented in repeated assessments. Consumer symptoms fluctuate and cause variation in individual assessments, but it is impossible to know if the variation is due to true changes in consumer functioning or differences in repeated implementation of the instrument. Without a sufficient number of repeated assessments, random variation may dominate the analysis. As a result, for robustness, pre-program period and post-program period averages were used for all nine dimensions of the ALFA, Clinical Global Impression (CGI), and SF-12 Health Survey. (See Appendix 1, page a-iii through a-v, for a discussion of the ALFA, CGI, and SF-12 assessment instruments.)

Other outcomes measures used in this report, such as arrests, housing status, rehabilitation status, and hospitalizations, were not averaged because they were counts of events and calculated as follows:

- Arrests—Arrests are drawn from the baseline assessment and the latest assessment as of January 31, 2003, and represent the number of self-reported arrests during the 6 months prior to the assessment.

- Housing status—Housing status represents the consumer's housing level at the time of their baseline assessment and the information in their latest assessment, when it was available. For consumers who did not have a housing status recorded in their latest assessment, RBHA staff provided the consumer's latest housing status.

- Rehabilitation status—Rehabilitation status represents the consumer's status at the baseline assessment and the highest level attained among all assessments at least 6 months after the baseline assessment.

- Hospitalization—Finally, hospitalization results represent admissions during the 6-month periods July 1, 2000 through December 31, 2000 (before); and January 1, 2002 through June 30, 2002 (after).

Comparison group participants—Auditors identified comparison groups for two programs: housing and ValueOptions high-intensity case management. Both comparison groups were drawn from ValueOptions consumers because only ValueOptions could provide a group of nonparticipating consumers with diagnoses

and other characteristics similar to the HB2003 participants through its waiting list for housing and its consumers who were later placed on non-HB2003 intensive case management teams. A complete demographic comparison of treatment and comparison group participants is given in Tables 28 and 29 in this Appendix (see pages xxxv through a-xxxviii). Additional details about these groups are given below by program:

- Housing—To compare HB2003 housing participants to those not in HB2003 housing, two separate comparison groups were developed. Both comparison groups consisted of ValueOptions' consumers who met the eligibility criteria for HB2003 housing and who were on the waiting list for housing as of May 2, 2003. The first group consisted of 283 consumers identified by ValueOptions as homeless. The second group consisted of 126 consumers identified by ValueOptions as "residential," meaning they were living in residential situations not provided or supported by HB2003 monies.

  Comparison group demographics for both comparison groups, as shown in Table 28 in this Appendix (see page a-xxxv), matched very well to the treatment group participants. The homeless group matched somewhat better than the residential group, which contained more males. Age, education, and ALFA functioning levels matched for both comparison groups and across all RBHAs. Even though the groups were drawn from ValueOptions, they were used to draw conclusions about consumers from all three RBHAs because they matched so well with participants in all the RBHAs.

  For both housing program comparison groups, the pre period was from July 1, 2000, through the consumer's baseline assessment, and the post period began after the consumer's baseline assessment and ended January 31, 2003. Each consumer's baseline assessment consisted of the assessment nearest July 1, 2001, the official start date of the HB2003 program, or the earlier assessment for consumers who had two assessments equidistant from July 1, 2001. Similar to the housing program participant group, the comparison group consumers' assessments were averaged separately in the pre and post periods in order to minimize the effect of random variations among assessments.

  Auditors analyzed the statistical differences in the mean changes for HB2003 participants' results with results for consumers in the two comparison groups. The statistical differences were used to determine the HB2003 housing program's effectiveness. The analyses controlled for RBHA, beginning functioning level measured by the ALFA, and diagnosis.

- Intensive case management—The intensive case management comparison group consisted of 108 ValueOptions consumers who were not placed on HB2003 high-intensity, community-based case management teams. These consumers were eventually placed on other, similar teams established later. These

consumers' placements on the later teams were based on the same eligibility criteria used for placement on the HB2003 teams. During the period studied, these consumers were being treated by ValueOptions traditional case management teams. The comparison group matches particularly well to ValueOptions' HB2003 high-intensity, community-based team participants, although there are more males in the comparison group. However, functioning levels measured by the ALFA are slightly more comparable to consumers in ValueOptions' supportive treatment teams. Table 29 in this Appendix (see page a-xxxvii through a-xxxviii) shows the demographic characteristics of the case management participants and the comparison group consumers.

The pre period for these consumers was from January 1, 2000 through June 30, 2001. The post period began after July 1, 2001, which was the official start date of the HB2003 program, and ended April 30, 2002, the month before ValueOptions enrolled the first of these consumers into the later-established, non-HB2003, high-intensity, community-based teams. Similar to the intensive case management program participant group, the comparison group consumers' assessments were averaged separately in the pre and post periods in order to minimize the effect of random variations among assessments.

Auditors analyzed the statistical differences in participants' progress from the pre to the post period compared with changes from pre to post for the comparison group. Statistical tests were used to draw conclusions regarding the effectiveness of the HB2003 high-intensity, community-based case management program based on this comparison. The analyses controlled for RBHA and beginning functioning level measured by the ALFA.

Table 8: **Housing**

Average ALFA Scores for Three RBHAs
Before and After Residence in HB2003 Housing
July 1, 2000 through January 31, 2003

Severity and Type of Dysfunction[1]	Number of Consumers	Average Score		Difference[2]
		Before Moving into Housing	After at Least 6 Months of Residency	
All severity levels (1-50)				
Family, living environment	47	34.1	28.1	6.0 ***
Feeling, affect, mood	47	35.3	32.4	2.9 ***
Interpersonal relations	47	35.8	33.5	2.3 **
Self-care	47	31.8	29.4	2.4 **
Substance abuse	47	27.4	22.8	4.6 ***
Thinking and cognition	47	34.1	31.3	2.8**
Severe (41-50)				
Family, living environment	13	45.3	29.9	15.4 ***
Feeling, affect, mood	11	44.8	35.1	9.7 ***
Interpersonal relations	11	45.1	37.6	7.5 ***
Self-care	8	42.2	36.1	6.1 ***
Substance abuse	5	43.6	30.9	12.7 *
Thinking and cognition	9	45.2	33.5	11.7***
Moderate (31-40)				
Family, living environment	16	35.1	28.1	7.0 ***
Feeling, affect, mood	21	35.9	33.3	2.6 ***
Interpersonal relations	22	36.6	33.8	2.8 **
Self-care	17	35.6	30.0	5.6 ***
Substance abuse	13	35.9	31.4	4.4 *
Thinking and cognition	20	36.7	33.5	3.2**
Slight (21-30)				
Family, living environment	14	27.0	26.9	0.1
Feeling, affect, mood	13	28.8	28.5	0.3
Interpersonal relations	13	27.8	29.1	-1.3
Self-care	15	28.1	27.6	0.5
Substance abuse	12	26.9	21.2	5.7 **
Thinking and cognition	15	27.1	27.7	-0.6

[1] Does not separately show two levels of functioning: no dysfunction (11-20) and superior functioning (1-10). All severity levels results include consumers at these levels.

[2] The differences between average scores before moving into housing and after at least 6 months of residency not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05 level, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a paired samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 9: **Housing**

Differences in Average ALFA Scores for Two RBHAs[1]
July 1, 2000 through January 31, 2003

Severity and Type of Dysfunction[2]	Excel		ValueOptions	
	Number of Consumers	Differences[3,4]	Number of Consumers	Differences[3,4]
All severity levels (1-50)				
Family, living environment	25	1.4	19	12.2***
Feeling, affect, mood	25	1.2	19	5.1***
Interpersonal relations	25	2.0	19	3.9**
Self-care	25	2.0	19	3.6**
Substance abuse	25	4.4***	19	5.0**
Thinking and cognition	25	-0.8	19	6.8***
Severe (41-50)				
Family, living environment	2	9.3	10	16.5***
Feeling, affect, mood	3	10.2	7	10.0**
Interpersonal relations	4	4.1	7	9.4***
Self-care	1	5.8	7	6.2**
Substance abuse	1	0.6	4	15.7**
Thinking and cognition			9	11.6***
Moderate (31-40)				
Family, living environment	9	7.2***	7	6.7**
Feeling, affect, mood	10	2.7*	11	2.5*
Interpersonal relations	11	6.0***	10	-0.1
Self-care	10	4.8**	6	6.5***
Substance abuse	7	6.7	5	2.0
Thinking and cognition	9	2.1	9	3.1*
Slight (21-30)				
Family, living environment	10	-1.8	2	9.5
Feeling, affect, mood	10	-0.4	1	0.0
Interpersonal relations	9	-3.6**	2	4.8**
Self-care	8	3.6**	5	2.2
Substance abuse	7	4.7	5	7.0
Thinking and cognition	13	-0.7	1	-4.0

1 Results for CPSA-5 are not presented here because the total number of consumers (3) is small.

2 Does not separately show two levels of functioning: no dysfunction (11-20) and superior functioning (1-10). All severity levels results include consumers at these levels.

3 Differences for the HB2003 consumers are calculated by comparing average scores before their move-in date to HB2003 housing and at least 6 months after.

4 The differences between average scores before moving into housing and after at least 6 months of residency not statistically significant have no *. The differences significant at the $p<0.1$ level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the $p<.05$ level, or less than 1 in 20, are indicated by **. Differences at the $p<.01$ levels, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a paired samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 10: **Housing**

Comparison of Average ALFA Changes for HB2003 Consumers[1]
and ValueOptions' Waiting List Consumers
July 1, 2000 through January 31, 2003

Severity and Type of Dysfunction[2]	Number of Consumers			Differences[2,3]			Differences Between Groups [3,4]	
		Waiting List			Waiting List			
	(HB)2003	(R)esidential	(H)omeless	(HB)2003	(R)esidential	(H)omeless	HB and R	HB and H
All severity levels (1-50)								
Family, living environment	47	80	143	6.1***	-0.6	-0.9	6.7***	7.0***
Feeling, affect, mood	47	80	143	3.0***	1.2	0.7	1.8	2.3*
Interpersonal relations	47	80	143	2.3**	-0.5	0.4	2.8**	1.9
Self-care	47	80	143	2.4**	-0.6	-0.6	3.0**	3.0**
Substance abuse	47	80	143	4.7***	0.8	2.6***	3.9***	2.1
Thinking and cognition	47	80	143	2.8**	0.9	0.5	1.9	2.3*
Severe (41-50)								
Family, living environment	13	21	32	15.5***	3.9**	7.6***	11.6***	7.9***
Feeling, affect, mood	11	19	19	9.7***	6.7***	8.0***	3.0	1.7
Interpersonal relations	11	25	29	7.5***	3.4***	6.8***	4.1*	0.7
Self-care	8	18	18	6.1***	3.7**	8.0***	2.4	-1.9
Substance abuse	5	15	22	12.7**	4.3**	11.1***	8.4	1.6
Thinking and cognition	9	27	27	11.6***	4.5***	6.1***	7.1***	5.6**
Moderate (31-40)								
Family, living environment	16	29	57	7.0***	2.6	0.2	4.4*	6.8***
Feeling, affect, mood	21	43	79	2.6***	1.0	1.8***	1.6	0.8
Interpersonal relations	22	43	74	2.8**	-0.5	1.4*	3.3**	1.4
Self-care	17	32	64	5.7***	0.3	2.2*	5.4***	3.4*
Substance abuse	13	18	37	4.5*	1.3	7.8***	3.2	-3.3
Thinking and cognition	20	39	64	3.2**	0.3	2.3***	2.9*	0.9
Slight (21-30)								
Family, living environment	14	21	40	0.1	-4.6**	-7.0***	4.7*	7.1***
Feeling, affect, mood	13	16	41	0.3	-3.2**	-3.5***	3.5	3.8**
Interpersonal relations	13	11	34	-1.3	-7.1***	-4.5***	5.8*	3.3
Self-care	15	27	40	0.4	-3.3***	-3.6***	3.7*	4.0*
Substance abuse	12	16	31	5.6**	1.9	0.0	3.7	5.6*
Thinking and cognition	15	13	41	-0.6	-3.7*	-4.2***	3.1	3.7**

[1] Only ValueOptions, Excel, and CPSA-5 had consumers that could be included.

[2] Does not separately show two levels of functioning: no dysfunction (11-20) and superior functioning (1-10). All severity levels results include consumers at these levels.

[3] Differences for HB2003 consumers are calculated by comparing average scores before their move-in date to HB2003 housing and at least 6 months after. Differences for the waiting list groups are calculated before and after July 1, 2001, the official HB2003 program start date. Differences between groups are calculated by subtracting the comparison group's difference from the HB2003 group's difference.

[4] The differences between average scores before moving into housing and after at least 6 months of residency not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05 level, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance of the differences were determined using a paired samples T-test, and statistical significance of the differences between groups was determined using an independent samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 11: **Housing**

Differences of Average CGI Scores for HB2003 Consumers at Three RBHAs
Compared to ValueOptions' Waiting List Consumers
July 1, 2000 through January 31, 2003

	Number of Consumers			Difference[1]			Differences Between Groups[2]	
		Waiting List			Waiting List			
Type of Score	**(HB)2003**	**(R)esidential**	**(H)omeless**	**(HB)2003**	**(R)esidential**	**(H)omeless**	**HB and R**	**HB and H**
Global improvement	26	47	82	-0.13	-0.32*	-0.23*	0.19	0.10
Severity of symptoms	40	58	113	0.71***	0.59***	0.46***	0.12	0.25

1 Differences for HB2003 consumers are calculated by comparing average scores before their move-in date to HB2003 housing and at least 6 months after. Differences for the waiting list groups are calculated before and after July 1, 2001, the official HB2003 program start date. Differences between groups are calculated by subtracting the comparison group's difference from the HB2003 group's difference.

2 The differences not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05 level, or less than 1 in 20, are indicated by **. Differences at the p<.01, or less than 1 in 100, are indicated by ***. Statistical significance of the differences was determined by using a paired samples T-test and statistical significance of the difference between groups was determined using an independent samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 12: **Housing**

Differences of Average CGI Scores for HB2003 Consumers at Two RBHAs
July 1, 2000 through January 31, 2003

	Differences			
	Excel		ValueOptions	
Type of Score	**Number of Consumers**	**Difference[2,3]**	**Number of Consumers**	**Difference[2,3]**
Global improvement	12	-0.73*	11	0.59
Severity of symptoms	18	0.22	19	1.18***

1 Results for CPSA-5 are not presented here because the total number of consumers (3) is small.

2 Differences for the HB2003 consumers are calculated by comparing average scores before their move-in date to HB2003 housing and at least 6 months after.

3 The differences not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05 level, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a paired samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 13: **Case Management**

Differences in Average ALFA Scores
Before and After Participation
in HB2003 Case Management Teams
July 1, 2000 through January 31, 2003

Severity and Type of Dysfunction [1]	Number of Consumers	Average Score Before Program	Average Score After at Least 6 Months	Difference [2]
All severity levels (1-50)				
Family, living environment	1,519	32.7	30.6	2.1***
Feeling, affect, mood	1,519	35.3	33.1	2.2***
Role performance	1,519	38.0	35.6	2.4***
Self-care	1,519	32.2	30.1	2.1***
Thinking, cognition	1,519	34.7	32.8	1.9***
Severe (41-50)				
Family, living environment	361	45.1	36.8	8.3***
Feeling, affect, mood	307	44.1	37.4	6.7***
Role performance	593	44.5	39.2	5.3***
Self-care	281	44.1	37.6	6.5***
Thinking, cognition	341	44.4	38.1	6.3***
Moderate (31-40)				
Family, living environment	446	36.4	31.9	4.5***
Feeling, affect, mood	784	36.6	33.7	2.9***
Role performance	654	37.1	34.7	2.4***
Self-care	525	36.1	31.7	4.4***
Thinking, cognition	664	36.4	33.5	2.9***
Slight (21-30)				
Family, living environment	453	27.2	28.2	-1.0***
Feeling, affect, mood	373	27.8	29.0	-1.2***
Role performance	226	28.0	29.7	-1.7***
Self-care	507	27.3	27.1	0.2
Thinking, cognition	437	27.6	28.7	-1.1***

1 Does not separately show two levels of functioning: no dysfunction (11-20) and superior functioning (1-10). All severity levels results include consumers at these levels.

2 The differences not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a paired samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 14: **Case Management**

Differences in Average ALFA Scores for Four RBHAs
July 1, 2000 through January 31, 2003

Severity and Type of Dysfunction[1,2]	Differences[3,4]											
	High-Intensity, Community-Based Teams										Supportive Treatment Teams	
	CPSA-3		CPSA-5		NARBHA		PGBHA		ValueOptions		ValueOptions	
All severity levels (1-50)												
Family, living environment	2.1	(38)	-0.4	(142)	1.1	(81)	-2.8	(22)	2.8**	(77)	2.5***	(1,158)
Feeling, affect, mood	2.4**	(38)	2.6***	(142)	0.9	(81)	-0.3	(22)	1.9	(77)	2.3***	(1,158)
Role performance	3.0***	(38)	2.4***	(142)	1.5*	(81)	-0.3	(22)	1.6	(77)	2.6***	(1,158)
Self-care	1.0	(38)	1.5**	(142)	1.8**	(81)	-1.7	(22)	2.5**	(77)	2.4***	(1,158)
Thinking, cognition	1.9	(38)	0.9	(142)	0.6	(81)	-1.2	(22)	0.7	(77)	2.3***	(1,158)
Severe (41-50)												
Family, living environment	11.6	(2)	10.3***	(23)	10.0	(2)	4.8***	(5)	9.7***	(33)	8.0***	(296)
Feeling, affect, mood	11.1**	(3)	8.9***	(29)	6.2**	(9)	2.2	(10)	10.2***	(26)	6.3***	(230)
Role performance	8.0	(5)	7.9***	(32)	4.5***	(38)	1.2	(15)	6.2***	(50)	5.1***	(453)
Self-care	--	(0)	9.3***	(12)	7.5*	(4)	3.5	(3)	7.1***	(34)	6.3***	(228)
Thinking, cognition	11.7	(1)	7.1***	(20)	6.7**	(5)	0.3	(11)	5.3***	(37)	6.6***	(267)
Moderate (31-40)												
Family, living environment	5.1***	(18)	2.9***	(47)	8.2***	(14)	-1.6	(11)	2.8*	(29)	4.8***	(327)
Feeling, affect, mood	3.9**	(19)	4.1***	(76)	1.1	(51)	-2.2*	(11)	1.2	(36)	3.0***	(590)
Role performance	3.3**	(23)	2.9***	(81)	0.6	(32)	-2.4	(6)	-1.3	(21)	2.6***	(490)
Self-care	4.5***	(16)	4.6***	(48)	4.6***	(27)	-0.8	(15)	1.7	(30)	4.7***	(389)
Thinking, cognition	3.0**	(27)	3.5***	(68)	2.5**	(37)	-2.7**	(11)	1.5	(28)	3.1***	(493)
Slight (21-30)												
Family, living environment	-0.6	(16)	-5.2***	(52)	1.1	(39)	-9.7*	(5)	-5.3	(9)	-0.3	(332)
Feeling, affect, mood	-0.9	(16)	-4.4***	(34)	-1.3	(19)	-5.0	(1)	-4.7***	(12)	-0.6*	(291)
Role performance	-0.1	(10)	-3.8***	(27)	-2.5	(8)	-10.0	(1)	-12.0	(2)	-1.3**	(178)
Self-care	-2.2	(17)	-0.4	(65)	1.2	(42)	-8.8	(3)	0.1	(10)	0.4	(369)
Thinking, cognition	-2.5	(9)	-2.9***	(45)	-1.0	(30)	--	(0)	-6.9**	(9)	-0.8**	(343)

1 Does not separately show two levels of functioning: no dysfunction (11-20) and superior functioning (1-10). All severity levels results include consumers at these levels.

2 Severity of dysfunction prior to program participation is based on average ALFA scores for assessments performed before entering intensive case management teams.

3 Differences for the HB2003 consumers are calculated by comparing average scores before enrolling in HB2003 intensive case management teams and at least 6 months after.

4 The differences not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05 level, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a paired samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 15: **Case Management**

Differences in Average ALFA Scores
for ValueOptions' HB2003 High-Intensity, Community-Based Team Consumers
Compared to Other ValueOptions' Consumers
July 1, 2000 through January 31, 2003

Severity and Type of Dysfunction[1,2]	Number of Consumers		Differences[3,4]		Difference Between Groups[4]
	HB2003	Other ValueOptions	HB2003	Other ValueOptions	
All severity levels (1-50)					
Family, living environment	77	106	2.8**	-0.7	3.5**
Feeling, affect, mood	77	106	1.9	-1.4**	3.3**
Role performance	77	106	1.6	-0.7	2.3
Self-care	77	106	2.5**	-1.9***	4.4***
Thinking, cognition	77	106	0.7	-1.9***	2.6*
Severe (41-50)					
Family, living environment	33	22	9.7***	4.7***	5.0***
Feeling, affect, mood	26	21	10.2***	3.0	7.2 ***
Role performance	50	43	6.2***	1.3	4.9 ***
Self-care	34	20	7.1***	2.1*	5.0***
Thinking, cognition	37	31	5.3***	2.0**	3.3 **
Moderate (31-40)					
Family, living environment	29	37	2.8*	1.0	1.8
Feeling, affect, mood	36	54	1.2	-0.6	1.8
Role performance	21	50	-1.3	-0.7	-0.6
Self-care	30	54	1.7	-1.1	2.8*
Thinking, cognition	28	49	1.5	-1.8***	3.3**
Slight (21-30)					
Family, living environment	9	42	-5.3	-4.1***	-1.2
Feeling, affect, mood	12	27	-4.7***	-5.2***	0.5
Role performance	2	12	-12.0	-6.9**	-5.1
Self-care	10	24	0.1	-2.6**	2.7
Thinking, cognition	9	24	-6.9***	-6.1***	-0.8

1 Does not separately show two levels of functioning: no dysfunction (11-20) and superior functioning (1-10). All severity levels results include consumers at these levels.

2 Severity of dysfunction prior to program participation for HB2003 consumers is based on average ALFA scores for assessments performed before enrolling in intensive case management teams. For other ValueOptions' consumers, severity of dysfunction prior to program participation is based on average ALFA scores for assessments performed before July 1, 2001.

3 Differences for the HB2003 consumers are calculated by comparing average scores before enrolling in HB2003 intensive case management teams and at least 6 months after. Differences for other ValueOptions consumers are calculated by comparing average scores for assessments performed before July 1, 2001, and average scores for assessments performed after July 1, 2001.

4 The differences not statistically significant have no *. The differences significant at the $p<0.1$ level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the $p<.05$ level, or less than 1 in 20, are indicated by **. Differences at the $p<.01$ level, or less than 1 in 100, are indicated by ***. Statistical significance of the difference was determined using a paired samples T-test, and statistical significance between groups was determined using an independent samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003, for HB2003 consumers, and assessment data provided by the Division for the period January 1, 2000 through April 30, 2002, for the comparison group.

Table 16: **Case Management**

Differences of Average CGI Scores
for HB2003 Consumers at Four RBHAs
July 1, 2000 through January 31, 2003

	High-Intensity, Community-Based Teams					Supportive Treatment Teams
Assessment Component	**CPSA-3**	**CPSA-5**	**NARBHA**	**PGBHA**	**ValueOptions**	**ValueOptions**
Global Improvement						
Number of consumers	30	99	72	19	51	705
Average score:						
Before program	2.44	3.22	2.36	3.42	2.85	2.55
After at least 6 months	2.23	2.67	2.39	3.75	2.65	2.60
Difference[1]	0.21*	0.55***	-0.03	-0.33*	0.20	-0.05
Severity of Symptoms						
Number of consumers	36	122	74	21	62	869
Average score:						
Before program	3.95	4.27	4.64	4.67	5.39	4.55
After at least 6 months	3.57	4.58	4.60	4.60	4.28	3.52
Difference[1]	0.38**	-0.31***	0.04	0.07	1.11***	1.03***

[1] The differences not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a paired samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 17: **Case Management**

Differences in Average CGI Scores for ValueOptions' HB2003 High-Intensity, Community-Based Team Consumers Compared to Other ValueOptions' Consumers July 1, 2000 through January 31, 2003

	Number of Consumers		Difference[1]		Difference Between Groups[2]
Assessment Component	**HB2003**	**Comparison Group**	**HB2003**	**Comparison Group**	
Global improvement	51	89	0.20	-0.10	0.30
Severity of symptoms	62	97	1.11***	0.17	0.94***

1 Differences for the HB2003 consumers are calculated by comparing average scores before enrolling in HB2003 intensive case management teams and at least 6 months after. Differences for the comparison group (other ValueOptions consumers) are calculated by comparing average scores for assessments performed before July 1, 2001, and average scores for assessments performed after July 1, 2001.

2 The differences not statistically significant have no *. The differences significant at the $p<0.1$ are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the $p<.05$ level, or less than 1 in 20, are indicated by **. Differences at the $p<.01$ level, or less than 1 in 100, are indicated by ***. Statistical significance of the differences were determined using a paired samples T-test and statistical significance of the difference between groups was determined using an independent samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003, for HB2003 consumers, and assessment data provided by the Division for the period January 1, 2000 through April 30, 2002, for the comparison group.

Table 18: **Case Management**

Differences in Average MCS-12 Scores
Before and After Participation
in HB2003 Case Management Teams
July 1, 2000 through January 31, 2003

Program and RBHA	Number of Consumers	Average Score Before Program	Average Score After at Least 6 months	Difference[1]
High-Intensity, Community-Based Teams				
CPSA-3	37	36.44	39.36	2.92
CPSA-5	122	34.49	38.37	3.88***
NARBHA	81	34.60	37.58	2.98***
PGBHA	22	38.81	35.66	-3.15
ValueOptions	65	40.67	45.64	4.97***
Supportive Treatment Teams				
ValueOptions	1,014	41.51	42.66	1.15***

[1] The differences not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance of the difference was determined using a paired samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 19: **Case Management**

Differences in Average SF-12 Scores
for ValueOptions' HB2003 High-intensity, Community-Based Team Consumers
Compared to Other ValueOptions' Consumers
July 1, 2000 through January 31, 2003

	Number of Consumers		Difference,[2,3]		Difference Between Groups[3]
	HB2003	Comparison Group	HB2003	Comparison Group	
SF-12 Component:					
MCS-12[1]	65	101	4.97***	0.14	4.83***

1 MCS-12 represents the score on the mental health component of the SF-12 health survey.

2 Differences for the HB2003 consumers are calculated by comparing average scores before enrolling in HB2003 intensive case management teams and at least 6 months after. Differences for the comparison group (other ValueOptions consumers) are calculated by comparing average scores for assessments performed before July 1, 2001, and average scores for assessments performed after July 1, 2001.

3 The differences not statistically significant have no *. The differences significant at the p<0.1 are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05 level, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance of the difference was determined using a paired samples T-test, and statistical significance of the difference between groups was determined using an independent samples T-test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003, for HB2003 consumers and assessment data provided by the Division for the period January 1, 2000 through April 30, 2002, for the comparison group.

Table 20: **Case Management**

Consumers in Two RBHAs Arrested
Before and After Participating
in HB2003 Case Management Teams[1]
Compared to Other ValueOptions' Consumers
July 1, 2000 through January 31, 2003

Program and RBHA	Total Number of Consumers	Number of Consumers Arrested					
		Before Participation		After Participation		Difference[2]	
		Number	Percentage	Number	Percentage	Number	Percentage
High-Intensity, Community-Based Teams							
CPSA-3	38	3	7.9	2	5.3	-1	-2.6
CPSA-5	149	15	10.1	14	9.4	-1	-0.7
ValueOptions	83	14	16.9	5	6.0	-9	-10.8**
Supportive Treatment Teams							
ValueOptions	1,309	161	12.3	82	6.3	-79	-6.0***
Comparison Group							
Other ValueOptions[3]	108	28	25.9	9	8.3	-19	-17.6***

1 NARBHA and PGBHA results were not reported because some consumers with arrests before participation lacked data on arrests after participation. Thus, auditors could not determine the number of self-reported arrests after participation.

2 The differences not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05 level, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a comparison of population proportions T-test.

3 The statistical comparison between the differences in the numbers of consumers in the ValueOptions high-intensity, community-based teams and consumers in the Other ValueOptions comparison group is significant at the p<.01, or less than 1 in 100. Statistical significance was determined using a Chi-square test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003, for the HB2003 consumers, and assessment data provided by the Division for the period January 1, 2000 through April 30, 2002, for the comparison group.

Table 21: **Case Management**

Consumers' Arrest Rate in Two RBHAs
Before and After Participation
in HB2003 Case Management Teams[1]
Compared to Other ValueOptions' Consumers
July 1, 2000 through January 31, 2003

Program and RBHA	Total Number of Consumers	Number of Arrests: Before Participation Number	Before Participation Rate per 100 Consumers	After Participation Number	After Participation Rate per 100 Consumers	Difference[2] Number	Difference[2] Rate per 100 Consumers
High-Intensity, Community-Based Teams							
CPSA-3	38	4	10.5	2	5.3	-2	-5.3
CPSA-5	149	26	17.4	17	11.4	-9	-6.0
ValueOptions	83	24	28.9	15	18.1	-9	-10.8*
Supportive Treatment Teams							
ValueOptions	1,309	351	26.8	103	7.9	-248	-18.9***
Comparison Group							
Other ValueOptions[3]	108	78	72.2	16	14.8	-62	-57.4***

1 NARBHA and PGBHA results were not reported because some consumers with arrests before participation lacked data on arrests after participation. Thus, auditors could not determine the number of self-reported arrests after participation.

2 The differences not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05 level, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a comparison of population proportions T- test.

3 The statistical comparison between the differences in the numbers of consumers in the ValueOptions high-intensity, community-based teams and consumers in the Other ValueOptions comparison group is significant at the p<.01 level, or less than 1 in 100. Statistical significance was determined using a Chi-square test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003, for the HB2003 consumers, and assessment data provided by the Division for the period January 1, 2000 through April 30, 2002, for the comparison group.

Table 22: **Case Management**

Consumers Hospitalized
Before and After Participating
in HB2003 Case Management Teams[1]
Compared to Other ValueOptions' Consumers
July 1, 2000 through January 31, 2003

Program and RBHA	Total Number of Consumers	Number of Consumers Hospitalized					
		Before Participation		After Participation		Difference[2]	
		Number	Percentage	Number	Percentage	Number	Percentage
High-Intensity, Community-Based Teams							
CPSA-3	25	0	—	1	4.0	1	4.0
CPSA-5	111	16	14.4	9	8.1	-7	-6.3
NARBHA	45	0	—	3	6.7	3	6.7*
PGBHA	6	0	—	0	—	0	—
ValueOptions	42	5	11.9	3	7.1	-2	-4.8
Supportive Treatment Teams							
ValueOptions	780	16	2.1	16	2.1	0	0.0
Comparison Group							
Other ValueOptions[3]	99	4	4.0	9	9.1	5	5.1

1 The number of HB2003 consumers hospitalized was based on admission dates between July 1, 2000 and December 31, 2000, and between January 1, 2002 and June 30, 2002, and the number of Other ValueOptions' consumers hospitalized was based on admission dates between July 1, 2000 and December 31, 2000, and between November 1, 2001 and April 30, 2002.

2 The differences not statistically significant have no *. The differences significant at the p<0.1 level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the p<.05 level, or less than 1 in 20, are indicated by **. Differences at the p<.01 level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a comparison of population proportions T-test.

3 The statistical comparison between the differences in the numbers of consumers in the ValueOptions high-intensity, community-based teams and consumers in the Other ValueOptions comparison group cannot be determined because of the small number of cases.

Source: Auditor General staff analysis of service encounter data provided by the Division for the period July 1, 2000 through January 31, 2003, for the HB2003 consumers and service encounter data for the period January 1, 2000 through April 30, 2002, for the comparison group.

Table 23: **Case Management**

Hospitalization Rate
Before and After Participating
in HB2003 Case Management Teams[1, 2]
Compared to Other ValueOptions' Consumers
July 1, 2000 through January 31, 2003

Program and RBHA	Total Number of Consumers	Number of Hospitalizations					
		Before Participation		After Participation		Difference[3]	
		Number	Rate per 100 Consumers	Number	Rate per 100 Consumers	Number	Rate per 100 Consumers
High-Intensity, Community-Based Teams							
CPSA-3	25	0	—	1	4.0	1	4.0
CPSA-5	111	27	24.3	10	9.0	-17	-15.3***
NARBHA	45	0	—	3	6.7	3	6.7*
PGBHA	6	0	—	0	—	0	—
ValueOptions	42	5	11.9	4	9.5	-1	-2.4
Supportive Treatment Teams							
ValueOptions	780	16	2.1	22	2.8	6	0.8
Comparison Group							
Other ValueOptions[4]	99	4	4.0	17	17.2	13	13.1***

1 Hospitalization rate is the number of hospitalizations per 100 consumers, and is found by dividing the total number of consumers by the total of number of hospitalizations, multiplied by 100.

2 The number of HB2003 consumers hospitalized was based on admission dates between July 1, 2000 and December 31, 2000, and between January 1, 2002 and June 30, 2002, and the number of Other ValueOptions' consumers hospitalized was based on admission data between July 1, 2000 and December 31, 2000, and between November 1, 2001 and April 30, 2002.

3 The differences not statistically significant have no *. The differences significant at the $p<0.1$ level are indicated by *. This means that the probability that the differences were due to chance is less than 1 in 10. Differences statistically significant at the $p<.05$ level, or less than 1 in 20, are indicated by **. Differences at the $p<.01$ level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a comparison of population proportions T-test.

4 The statistical comparison between the differences in the numbers of consumers in the ValueOptions high-intensity, community-based teams and consumers in the Other ValueOptions comparison group cannot be determined because of the small number of cases.

Source: Auditor General staff analysis of service encounter data provided by the Division for the period July 1, 2000 through January 31, 2003, for the HB2003 consumers and service encounter data for the period January 1, 2000 through April 30, 2002, for the comparison group.

Table 24: **Rehabilitation**

Consumers Enrolled in Psychosocial and Consumer-run Rehabilitation Activities
Before and After Participation in HB2003 Programs[1]
June 1, 2001 through January 31, 2003

Program and RBHA	Number of Consumers	Consumers Participating in Psychosocial Rehabilitation Programs					
		Before Program		After at Least 6 Months		Gain	
		Number	Percentage	Number	Percentage	Number	Percentage[3]
High-Intensity, Community-Based Teams							
CPSA-3	25	3	12	3	12	—	—
CPSA-5	77	4	5	11	14	7	9*
NARBHA	83	1	1	5	6	4	5*
PGBHA	20	0	0	0	0	—	—
ValueOptions	36	5	14	18	50	13	36***
Supportive Treatment Teams							
ValueOptions	431	87	20	129	30	42	10***
Other HB2003 Consumers							
ValueOptions[2]	345	12	3	36	10	24	7***

1 Includes consumers enrolled in HB2003 intensive case management teams at all RBHAs and other consumers on ValueOptions' HB2003 roster.

2 Includes consumers enrolled in traditional case management teams placed in HB2003 housing programs or HB2003-supported rehabilitation programs.

3 The differences between the percentage reported before the program and after at least 6 months were statistically significant at the p<.1 level for groups indicated as *. This means that the probability that the difference was due to chance is less than 1 in 10. Groups statistically significant at the p<.01, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a comparison of population proportions test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period June 1, 2001 through January 31, 2003.

Table 25: **Rehabilitation**

Average ALFA-Interpersonal Relations Scores
for HB2003 Consumers Enrolled in
Psychosocial and Consumer-Run Rehabilitation Activities
June 1, 2001 through January 31, 2003[1]

Program and RBHA	Number of Consumers[3]	Average Score		Changes in Symptoms[4]
		Before Program	After at Least 6 Months	
High-Intensity, Community-Based Teams[2]				
CPSA-3	3	35.9	34.3	1.6
CPSA-5	11	37.7	33.3	4.4*
NARBHA	5	41.3	40.7	0.6
ValueOptions	18	38.2	34.6	3.6
Supportive Treatment Teams				
ValueOptions	127	38.6	34.2	4.4***
Other HB2003 Consumers				
ValueOptions[5]	34	36.0	32.3	3.7***

1 No comparison group was available for consumers enrolled in rehabilitation activities. As a result, auditors cannot determine how much, if any, of the improvement shown can be attributed to the HB2003 program.

2 PGBHA did not have any consumers who were enrolled in psychosocial and consumer-run activities and had ALFA interpersonal relations scores before and after participating.

3 Excludes six consumers who participated in psychosocial and consumer-run rehabilitation activities but did not have ALFA scores on the interpersonal relations dimension.

4 Positive numbers indicate an improvement in symptoms. The differences between the average score before program and average score after at least 6 months were not statistically significant for groups without any*. The difference statistically significant at the $p<0.1$ level is indicated by *. This means that the probability that the difference was due to chance is less than 1 in 10. Differences at the $p<.01$ level, or less than 1 in 100, are indicated by ***. Statistical significance was determined using a paired samples T-test.

5 Includes consumers enrolled in traditional case management teams placed in HB2003 housing programs or HB2003-supported rehabilitation programs.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period June 1, 2001 through January 31, 2003.

Table 26: **Rehabilitation**

Consumers Enrolled in Educational, Training, and Transitional Work Programs
Before and After Participation in HB2003 Programs[1]
June 1, 2001 through January 31, 2003

Program and RBHA	Number of Consumers	Consumers Participating in Educational, Training, and Transitional Work Programs					
		Before Program		After at Least 6 Months		Gain	
		Number	Percentage	Number	Percentage	Number	Percentage[3]
High-Intensity, Community-Based Teams							
CPSA-3	25	1	4	1	4	—	—
CPSA-5	77	10	13	23	30	13	17**
NARBHA	83	1	1	3	4	2	2
PGBHA	20	1	5	1	5	—	—
ValueOptions	36	1	3	3	8	2	6
Supportive Treatment Teams							
ValueOptions	431	25	6	37	9	12	3
Other HB2003 Consumers							
ValueOptions[2]	345	15	4	28	8	13	4**

1 Includes consumers enrolled in HB2003 intensive case management teams at all RBHAs and other consumers on ValueOptions' HB2003 roster.

2 Includes consumers enrolled in traditional case management teams placed in HB2003 housing programs or HB2003-supported rehabilitation programs.

3 The differences between the percentage reported before the program and after at least 6 months were not statistically significant for groups without any *. The differences statistically significant at the p<.05 level are indicated by **. This means that the probability that the differences were due to chance is less than 1 in 20. The difference statistically significant at the p<.01 level, or less than 1 in 100, is indicated by ***. Statistical significance was determined using a comparison of population proportions test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period June 1, 2001 through January 31, 2003.

Table 27: **Rehabilitation**

Consumers Employed
Before and After Participation in HB2003 Programs[1]
June 1, 2001 through January 31, 2003

Program and RBHA	Number of Consumers	Consumers Employed Part- or Full-Time: Before Program Number	Before Program Percentage	After at Least 6 Months Number	After at Least 6 Months Percentage	Gain Number	Gain Percentage[3]
High-Intensity, Community-Based Teams							
CPSA-3	25	1	4	4	16	3	12
CPSA-5	77	6	8	10	13	4	5
NARBHA	83	8	10	10	12	2	2
PGBHA	20	1	5	1	5	—	—
ValueOptions	36	1	3	3	8	2	6
Supportive Treatment Teams							
ValueOptions	431	28	6	41	10	13	3
Other HB2003 Consumers							
ValueOptions[2]	345	38	11	39	11	1	—

1 Includes consumers enrolled in HB2003 intensive case management teams at all RBHAs and other consumers on ValueOptions' HB2003 roster.

2 Includes consumers enrolled in traditional case management teams placed in HB2003 housing programs or HB2003-supported rehabilitation programs.

3 The differences between the percentage reported before the program and after at least 6 months were not statistically significant for groups without any *. The difference statistically significant at the p<.1 level is indicated as *. This means that the probability that the difference was due to chance is less than 1 in 10. The difference statistically significant at the p<.05 level, or less than 1 in 20, is indicated by **. Statistical significance was determined using a comparison of population proportions test.

Source: Auditor General staff analysis of assessment data provided by the Division and the RBHAs for the period June 1, 2001 through January 31, 2003.

Table 28: Characteristics of HB2003 Housing Consumers Compared to ValueOptions' Waiting List Consumers

	HB2003 Groups				Comparison Groups	
	Excel	ValueOptions	CPSA-5	All	Homeless	Residential
Total number	30	21	3	54	283	126
Demographic characteristics[1, 2]						
Gender						
Male	40%	62%	67%	50%	51%	60%
Female	60%	38%	33%	50%	49%	40%
Average age	44	42	35	42	41	39
Average years of education	13	11	13	12	12	12
Ethnicity and race						
Non-Hispanic white	76.7%	61.9%	100%	72.2%	69.6%	65.9%
Non-Hispanic black	6.7%	9.5%		7.4%	17.3%	16.7%
Non-Hispanic Asian	3.3%	14.3%		7.4%	2.5%	4.0%
Non-Hispanic American Indian/Alaska Native	3.3%	4.8%		3.7%		0.8%
Non-Hispanic other	3.3%			1.9%	1.8%	1.6%
Hispanic white	6.7%	9.5%		7.4%	5.3%	6.3%
Hispanic black					0.4%	
Hispanic other					3.2%	4.8%
Marital status						
Never married	40.0%	90.5%	33.3%	57.3%	56.9%	77.0%
Married	10.0%	4.8%		7.4%	11.3%	4.8%
Divorced	23.3%	4.8%	66.7%	18.5%	25.1%	15.9%
Widowed	6.7%			3.7%	1.4%	1.6%
Separated	3.3%			1.9%	5.3%	0.8%
Legal status[3]						
Voluntary	86.7%	85.8%	100%	87.0%	93.6%	91.3%
Civil court order	13.3%	9.5%		11.1%	5.3%	8.7%
Criminal court order		4.8%		1.9%	1.1%	
Diagnosis						
Delusional disorder						
Major depressive disorder						
Schizophrenia						
Other psychotic disorder						
Other/unknown						

1 Average age is as of December 31, 2002. Average years of education, legal status, and marital status are as of each consumer's baseline assessment.

2 Numbers do not total 100 percent because of rounding.

3 Legal status indicates the reason the consumer is enrolled in the behavioral health system.

Table 28: Characteristics of HB2003 Housing Consumers Compared to ValueOptions' Waiting List Consumers (concl'd)

	HB2003 Groups				Comparison Groups	
	Excel	ValueOptions	CPSA-5	All	Homeless	Residential
Measures of mental health[1]						
MCS-12	33.24	39.18	36.63	35.89	38.14	39.10
ALFA						
Family, living environment	30.03	39.56	31.19	33.94	34.43	34.76
Feeling, affect, mood	33.36	39.49	32.95	35.81	35.09	37.14
Interpersonal relations	34.77	38.50	29.64	35.98	35.82	38.59
Self-care	30.18	34.38	29.69	31.85	32.66	35.23
Substance abuse	26.26	27.71	23.62	26.69	28.29	28.05
Thinking, cognition	29.62	40.35	32.60	34.13	34.62	38.57
RAFL[2]	107.15	158.56	78.57	126.26	126.24	142.77
CGI						
Global improvement	2.23	2.87	2.67	2.59	2.49	2.71
Severity of symptoms	3.41	4.76	5.00	4.15	4.57	5.09

1 All measures of mental health represent the "pre" value. See Appendix 2, page a-vii, for an explanation of "pre" values. See Appendix 1, page a-iii through a-v, for an explanation of the measures and their numeric scales.

2 The RAFL is a composite of five ALFA scores: interpersonal relations, role performance, self care/basic living skills, social/legal, and substance use.

Source: Auditor General staff analysis of enrollment and assessment data provided by the Division and the RBHAs for the period July 1, 2000 through January 31, 2003.

Table 29: Characteristics of HB2003 Case Management Consumers Compared to Other ValueOptions' Consumers

	High-Intensity, Community-Based Teams					Supportive Treatment Teams	Comparison Group: Other
	ValueOptions	NARBHA	PGBHA	CPSA-3	CPSA-5	VO STT	ValueOptions
Total number	83	87	40	38	149	1,309	108
Demographic characteristics[1, 2]							
Gender							
Male	61%	40%	55%	68%	52%	53%	70%
Female	39%	60%	45%	32%	48%	47%	30%
Average age	45	49	44	44	41	46	42
Average years of education	11	12	11	13	12	11	11
Ethnicity and race:							
Non-Hispanic white	57.8%	89.7%	90.0%	89.5%	82.6%	57.8%	60.2%
Non-Hispanic black	30.1%	1.1%	2.5%		6.0%	21.2%	17.6%
Non-Hispanic Asian	3.6%		2.5%			4.4%	5.6%
Non-Hispanic American Indian/Alaska Native		1.1%			2.7%	1.1%	0.9%
Non-Hispanic other	1.2%	1.1%			0.7%	0.7%	0.9%
Non-Hispanic unknown					1.3%	0.2%	
Hispanic white	6.0%	1.1%	2.5%	10.5%	6.0%	11.8%	13.0%
Hispanic black			2.5%			0.1%	
Hispanic American Indian/Alaska Native					0.7%		
Hispanic other	1.2%	5.7%				2.7%	1.9%
Marital status							
Never married	69.9%	31.0%	40.0%	44.7%	58.4%	56.0%	71.3%
Married	4.8%	25.3%	15.0%	18.4%	6.0%	13.2%	8.3%
Divorced	19.3%	35.6%	37.5%	23.7%	29.5%	22.1%	18.5%
Widowed	1.2%	3.4%	2.5%	7.9%	0.7%	2.9%	
Separated	4.8%	4.6%	5.0%	5.3%	5.4%	5.8%	1.9%

1 Average age is as of December 31, 2002. Average years of education, legal status, and marital status are as of each consumer's baseline assessment.
2 Numbers do not total 100 percent because of rounding.

Table 29: Characteristics of HB2003 Case Management Consumers Compared to Other ValueOptions' Consumers (Concl'd)

	High-Intensity, Community-Based Teams					Supportive Treatment Teams	Comparison Group: Other
	ValueOptions	NARBHA	PGBHA	CPSA-3	CPSA-5	VO STT	ValueOptions
Legal status[1]							
Voluntary	86.7%	94.3%	90.0%	89.5%	79.9%	89.1 %	83.3%
Civil court order	13.3%	5.7%	7.5%	10.5%	19.5%	8.6%	15.7%
DUI court order						0.2%	
Other criminal court order			2.5%		0.7%	2.1%	0.9%
Diagnosis							
Delusional disorder				5.3%	2.0%	0.4%	1.9%
Major depressive disorder	12.0%	62.1%	32.5%	42.1%	57.70%	35.4%	17.6%
Schizophrenia	77.1%	31.0%	52.5%	47.4%	35.6%	50.2%	71.3%
Other psychotic disorder	9.6%	4.6%	15.0%	5.3%	4.0%	7.3%	9.3%
Other/unknown	1.2%	2.3%			0.7%	6.7%	
Measure of Mental Health[2]							
MCS-12	41.11	34.92	37.80	36.44	34.24	41.52	43.44
ALFA							
Family, living environment	37.44	28.01	35.98	29.78	31.61	32.89	33.48
Feeling, affect, mood	36.89	37.35	41.66	31.49	35.28	35.03	34.83
Role performance	40.58	41.68	44.17	34.45	36.09	37.82	38.17
Self-care	37.72	32.43	36.71	28.17	29.63	32.27	33.60
Thinking, cognition	38.50	33.74	41.38	32.04	33.23	34.68	36.36
RAFL[3]	150.38	92.31	146.81	98.43	97.14	118.78	132.35
CGI							
Global improvement	2.93	2.36	3.46	2.44	3.20	2.66	2.72
Severity of symptoms	5.41	4.61	4.88	3.93	4.28	4.62	5.01

1 Legal Status indicates the reason the consumer is enrolled in behavioral health system.

2 All measures of mental health represent the "pre" value. See Appendix 2, page a-vii, for an explanation of "pre" values. See Appendix 1, page a-iii through a-v, for an explanation of the measures and their numeric scales.

3 The RAFL is a composite of five ALFA scores: interpersonal relations, role performance, self care/basic living skills, social/legal, and substance use.

Source: Auditor General staff analysis of enrollment and assessment data provided by the Division and the RBHAs for the period January 1, 2000 through January 31, 2003.

APPENDIX 3

Appendix 3: Housing Projects Funded by HB2003 Monies

RBHA Housing Service Category and Project Type	Number of Beds	City	(P)urchased or (N)ew Construction	Date Project Opened	Total HB2003 Consumers on or before September 30, 2003	HB2003 Funding	Additional Monies Available[1]
CPSA-3							
Independent living							
Apartment complex	12	Douglas	N	8/1/03		$ 360,000	$ 125,950
Apartment complex	12	Sierra Vista	N	9/2/03		360,000	125,950
Apartment complex	12	Nogales	N	10/1/03		330,000	159,450
CPSA-5							
Independent living							
Apartment complex	16	Tucson	P	4/1/02	16	667,000	
Apartment complex	16	Tucson	N	2/20/03	4	578,500	
Apartment complex	16	Tucson	N	2/25/03	0	88,500	500,000
Apartment complex	16	Tucson	P	4/1/03	15	408,500	256,282
Total CPSA	**100**				**35**	**2,792,500**	**1,167,632**
Excel							
Independent living with support							
Apartment complex	11	Yuma	P	2/1/01	33	268,500	
Apartment complex	22	Yuma	P	3/1/01	36	655,009	
Independent							
Apartment complex	5	Parker	P	5/1/02	5	173,000	
House	9	San Luis	N	9/1/02	4	185,590	
Total Excel	**47**				**78**	**1,282,099**	
NARBHA							
24-hour supervised living							
House	8	Flagstaff	P	10/15/02	2	200,000	237,535
House	8	Kingman	N	6/2/03	1	249,045	
House	12	Cottonwood	N	to be determined		403,000	75,401

Appendix 3: (Cont'd)

RBHA Housing Service Category and Project Type	Number of Beds	City	(P)urchased or (N)ew Construction	Date Project Opened	Total HB2003 Consumers on or before September 30, 2003	HB2003 Funding	Additional Monies Available[1]
NARBHA (concl'd)							
Independent living with support							
Apartment complex	4	Prescott Valley	P	10/1/02	2	$ 150,000	
Apartment complex	6	Holbrook	N	3/19/03	1	94,133	$ 368,300
Apartment complex	10	Prescott Valley	N	6/27/03	5	197,977	400,000
Total NARBHA	**48**				**11**	**1,294,155**	**1,081,236**
PGBHA							
Independent living							
Apartment complex	8	Apache Junction	P	11/1/02	10	207,721	
Apartment complex	8	Payson	P	11/15/02	7	165,000	139,900
House	2	Casa Grande	P	5/9/03	3	87,588	
House	4	Casa Grande	P	12/21/02	1	137,412	
House	8	Coolidge	N	8/22/03[2]	1	414,645	
Total PGBHA	**30**				**22**	**1,012,366**	**139,900**
ValueOptions							
24-hour supervised living							
Apartment complex	8	Mesa	P	2/28/02	7	538,273	
Apartment complex	8	Phoenix	N	8/28/03		500,000	2,581,000
House	4	Chandler	P	9/29/01	11	192,406	
House	4	Chandler	P	9/30/01	5	180,304	
House	4	Chandler	P	11/30/01	7	189,784	

Appendix 3: (Concl'd)

RBHA Housing Service Category and Project Type	Number of Beds	City	(P)urchased or (N)ew Construction	Date Project Opened	Total HB2003 Consumers on or before September 30, 2003	HB2003 Funding	Additional Monies Available[1]
ValueOptions (Concl'd)							
24-hour supervised living (concl'd)							
House	4	Phoenix	P	12/15/01	4	$ 193,377	
House	4	Phoenix	P	12/15/01	5	187,246	
House	4	Morristown	P	12/31/01	5	217,527	
House	4	Phoenix	P	4/30/02	4	199,645	
House	5	Mesa	P	4/30/02	5	172,806	
House	4	Phoenix	P	4/30/02	7	185,039	
House	4	Phoenix	P	5/16/03	4	147,618	
16-hour supervised living							
Apartment complex	12	Chandler	P	10/30/01	18	317,261	$ 100,000
Independent living with support							
Apartment complex	12	Phoenix	P	11/30/01	29	364,245	
Apartment complex	6	Phoenix	P	1/24/03	2	342,302	
Apartment complex	14	Scottsdale	P	3/25/03	8	482,793	
Apartment complex	8	Phoenix	P	9/11/03		741,863	
Total ValueOptions	**109**				**127**	**5,152,435**	**2,681,000**
Totals	**334**				**273**	**$11,533,555**	**$5,069,768**

1 By spending HB2003 monies, additional monies from federal and state grants became available to help pay construction costs.

2 Two of four homes opened on 8/22/03.

Source: Auditor General staff analysis of data provided by the Arizona Department of Housing and the Regional Behavioral Health Authorities.

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AGENCY RESPONSE

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JANET NAPOLITANO, GOVERNOR
CATHERINE R. EDEN, DIRECTOR

April 19, 2004

Debra K. Davenport
Auditor General
2910 N. 44th Street
Phoenix, Arizona 85008

Dear Ms. Davenport:

The Department would like to thank the Office of the Auditor General for the thorough analysis of the benefits of the House Bill 2003 programs. We agree with all of the report's findings. We are pleased that the report recognizes that HB 2003 programs substantially increased the quality of life for House Bill 2003 consumers.

While we are pleased with the report overall, we would like to acknowledge two report limitations. In some instances, conclusions may not adequately recognize the full scope of the program's accomplishments, since the audit's timeframe for data collection ended on December 31, 2002. As a result of this limitation, the report draws conclusions on program outcomes based on limited data, and does not consider services received by consumers after the data collection deadline. In addition, the sample sizes related to outcomes reported for several of the Regional Behavioral Health Authorities (RBHAs) are very low. Therefore, interpretation or conclusions stated should be interpreted with caution.

We plan to implement the recommendations presented in the report as follows:

Finding 1

- Recommendation 1.a. & 1.b: The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

- Recommendation 1.c: The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented.

  Explanation: The finding recommends that the Division "Work with Excel to determine what outcomes should be expected for consumers in Excel's independent housing, and analyze the impact of Excel's housing program against those expected outcomes."

  The Division will complete a full analysis of the Excel House Bill 2003 programs, and based on the results, develop any needed recommendations for improvement in consumer housing to Excel. This will allow the Department to incorporate the recommendation into overall quality improvement efforts, without continuing to track specific outcomes for individual HB 2003 consumers.

Finding 2

- Recommendation 1.a. and 1.b: The finding of the Auditor General is agreed to and the audit recommendations will be implemented.

- Recommendation 1.c: The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented.

  Explanation: The finding recommends that the Division "Examine the causes for the lack of significant results for PGBHA's consumers."

  The Division will complete a full analysis of the PGBHA House Bill 2003 programs, and based on the results, develop any needed recommendations.

Finding 3

- Recommendation 1: The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

Once again, thank you for your professionalism and your fair and thorough evaluation.

Sincerely,

Catherine R. Eden
Director

cc: Leslie Schwalbe

Performance Audit Division reports issued within the last 12 months

02-04	State Parks Board—Heritage Fund
02-05	Arizona Health Care Cost Containment System—Member Services Division
02-06	Arizona Health Care Cost Containment System—Rate Setting Processes
02-07	Arizona Health Care Cost Containment System—Medical Services Contracting
02-08	Arizona Health Care Cost Containment System—Quality of Care
02-09	Arizona Health Care Cost Containment System—Sunset Factors
02-10	Department of Economic Security—Division of Children, Youth and Families, Child Protective Services
02-11	Department of Health Services—Health Start Program
02-12	HB2003 Children's Behavioral Health Services Monies
02-13	Department of Health Services—Office of Long Term Care
03-L1	Competitive Electric Metering, Meter Reading, and Billing and Collections
03-01	Government Information Technology Agency—State-wide Technology Contracting Issues
03-02	Registrar of Contractors
03-03	Water Infrastructure Finance Authority
03-04	State Board of Funeral Directors and Embalmers
03-05	Department of Economic Security—Child Protective Services—Foster Care Placement Stability and Foster Parent Communication
03-06	Arizona Board of Appraisal
03-07	Arizona Board for Charter Schools
03-08	Arizona Department of Commerce
03-09	Department of Economic Security—Division of Children, Youth and Families Child Protective Services—Caseloads and Training
04-L1	Letter Report—Arizona Board of Medical Examiners
04-01	Arizona Tourism and Sports Authority
04-02	Department of Economic Security—Welfare Programs

Future Performance Audit Division reports

Department of Emergency and Military Affairs and State Emergency Council

Department of Environmental Quality—Waste Programs Division