

North Carolina Jail Diversion Report

2004-2005

I. The North Carolina Jail Diversion Initiative

The North Carolina statewide Jail Diversion report for 2004-2005 is the second report in a longitudinal and cumulative study that began with the publication of the 2003-2004 statewide North Carolina Jail Diversion report. The 2003-2004 report presented the results of an analysis of data collected on 210 consumers in twelve (12) state and SAMHSA funded North Carolina post-booking jail diversion programs.

This North Carolina jail diversion report for 2004-2005 takes up from where that previous report left off, testing hypotheses that were suggested from the results presented in the 2003-2004 report. It is strongly recommended that readers first become familiar with the results of the 2003-2004 statewide jail diversion study before examining this 2004-2005 report.

Readers may access the 2003-2004 North Carolina Statewide Jail Diversion report through North Carolina's Division of MH/DD/SAS website at the following URL - <http://www.dhhs.state.nc.us/mhddsas/justice/jaildiversion/ncjaildiv03-04report.pdf>.

New Developments in Jail Diversion during FY 04-05

- The North Carolina state legislature passed HB 1414 which included \$194,101 in one time mental health trust funds to establish and study the effectiveness of mental health courts in Chatham and Mecklenburg counties. This legislation requires that people referred to this court are repeat adult offenders who are in the mental health target populations.
- A Governor's Crime Commission grant for \$27,804 was awarded to establish a Memphis model Crisis Intervention Team (CIT) pre-booking jail diversion program in Wake County. This pre-booking jail diversion initiative will establish a CIT training program and infrastructure that will make CIT training available and free of charge to all law enforcement officers in North Carolina.
- A new post-booking jail diversion program was established in Durham County. This initiative was developed within the Local Management Entities (LMEs) available resources.
- The twelve post-booking jail diversion programs have diverted more than 329 individuals with mental illness from the criminal justice system into mental health treatment in the community.

II. Research Results

Abstract

The 2004 – 2005 jail diversion report contains the results from a preliminary series of analyses of data collected on twelve (12) state and federally funded post-booking jail diversion programs in North Carolina.

One of these analyses examines the extent to which the consumers with co-occurring mental health and substance abuse problems who are in jail diversion programs receive treatment that comports with the best practice model of integrated treatment for people with these dual disorders.

Jail diversion programs were also compared on the numbers of consumers they were able to divert from jail. Similar comparisons of numbers of consumers diverted were made between the four post-booking models implemented in North Carolina; mental health courts, intensive case management, assertive community treatment teams (ACTT) , and transitional case management.

In addition, data were collected on outcomes for consumers in these jail diversion programs. Specific outcome variables examined and compared across programs and models included rates of substance abuse, rates of inpatient psychiatric admissions, and rates of re-arrest.

Key Findings¹

- Consumers remaining in jail diversion programs for two years or longer begin to reduce their use of inpatient psychiatric hospitalization.
- Rates of inpatient psychiatric admission decline after one year of service for consumers in three of the four jail diversion program models that were examined.
- Rates of reported substance abuse among consumers decline after one year of service for consumers in all jail diversion program models.
- Rates of reported substance abuse vary markedly across programs.
- A recent trend is noted for higher rates of re-arrest in one of the four models of jail diversion programs.
- Although elements of integrated treatment for persons with co-occurring mental illness and substance abuse is available in all areas, none of the jail diversion programs reported that consumers with dual disorders receive the family psycho-educational component of this model.

¹ Due to small sample sizes, these findings should be considered preliminary. The results may change as sample sizes grow larger and when more sophisticated data analysis techniques can be used.

Hypothesis:

Jail diversion programs do not reduce rates of psychiatric hospital admissions because they do not provide integrated treatment services for people with co-occurring disorders.

Background:

Both national statistics² and North Carolina data on clients of jail diversion programs indicate that approximately 72% of clients in jail diversion programs have co-occurring mental illness and substance abuse problems. It may be the case that treatment approaches found effective for consumers with co-occurring disorders will be effective with this population.

Research clearly indicates that the integrated treatment model is a best practice treatment for people with severe and persistent mental illness and co-occurring severe substance abuse problems. A recent study in North Carolina indicated that application of an integrated treatment approach reduced psychiatric hospitalization admissions and bed days by about a third.³

² National GAINS Center for People with Co-occurring Disorders in the Justice System (2001). "The prevalence of co-occurring mental illness and substance use disorders in jail." Fact Sheet Series: Delmar, NY.

³ Lyerly, S. & Kurtz, R. (2001). "Outcomes of integrated treatment on a North Carolina population of mentally ill and substance abusing clients." Unpublished study.

However, it is not known to what extent these programs provide integrated treatment services that comport with best practice.

A scale measuring fidelity to the integrated treatment model was recently developed.⁴ It allows programs to assess how well they conform to the well-researched model of integrated treatment found effective in reducing rates of psychiatric hospitalization.

To be fully compliant with this integrated treatment model, programs must offer consumers with co-occurring disorders the following thirteen service elements:

1. Care by a multidisciplinary team
2. Stage-wise interventions
3. Comprehensive dual disorder services.
4. Long-term services
5. Outreach services
6. Interventions based on motivational approaches
7. Substance abuse counseling
8. Dual disorders group treatment
9. Family psycho-education on dual disorders
10. Self-help programs
11. Medical personnel cross trained in dual disorder treatment.
12. A structured education program
13. Referral of non-responders for evaluation and secondary intervention.

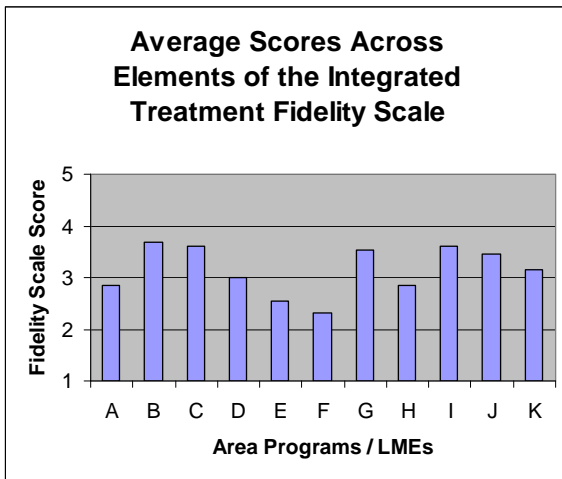
⁴ The reader is referred to the North Carolina Science to Service website at www.NCS2S.org for more information about the Dual Disorders Fidelity Scale, including detailed descriptions of these service elements.

Methodology:

Staff from ten jail diversion programs in North Carolina completed a non-standardized assessment of the extent to which their programs provided integrated treatment to consumers with co-occurring mental health and substance abuse problems. They were asked to rate on a 1-5 Likert scale the extent to which services provided to these consumers complied with this approach.

Results:

Results of these programs' self-assessed fidelity scores are as follows⁵:



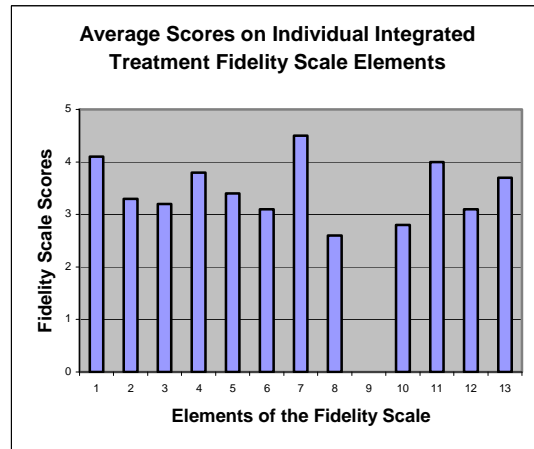
As this chart indicates, none of the ten programs fully complied with the integrated treatment approach.

Average scores on the thirteen elements of the fidelity scale varied markedly. Some elements of this model were more frequently

⁵ The specific programs associated with these fidelity scores were not identified in order to encourage their unbiased appraisal.

complied with than others, and none of the programs provided family psycho-education on dual disorders.

These results indicate that considerable variation exists in these programs' fidelity to elements of the integrated treatment approach.



Hypothesis:

Consumers remaining in jail diversion programs for two years have decreased rates of psychiatric hospitalization.

Research suggests that jail diversion programs do not significantly reduce rates of psychiatric hospitalization.⁶ This finding is consistent with our data collected from consumers one year post-diversion. However, treatment gains resulting in decreased rates of psychiatric hospitalization may not appear until after two or more years of treatment.

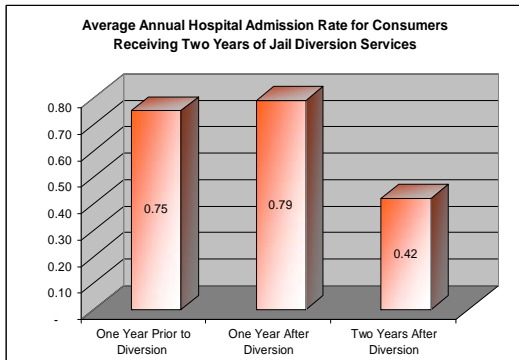
⁶ Steadman H., Coccozza, J., & Vesey, B. (1999) Comparing outcomes for diverted and non-diverted jail detainees with mental illnesses. *Law and Human Behavior*, v. 23, 615-627.

Methodology:

To test this hypothesis, the rates of psychiatric hospitalization for the twenty-four (24) consumers receiving jail diversion services for at least two years were examined. Their psychiatric hospitalization rates prior to participation in the jail diversion program were compared with their hospitalization rates during the year following their participation in a jail diversion program, and after their second year of receiving jail diversion services.

Results:

The results are displayed in the following chart:



These results indicate that consumers of jail diversion services who remain in treatment for at least two years begin to show significant reductions in their use of psychiatric inpatient treatment.

However, relatively few consumers of jail diversion services remain in treatment for as long as two years; they typically complete their legal obligations and are referred for other services, or are

otherwise discharged from treatment before two years.

There may be factors that predict which consumers will remain in treatment for two years or longer and which will not. These factors may also account for differences between these groups in psychiatric hospitalization rates.

In order to determine the factors predicting longevity in jail diversion programs, differences between consumers remaining in these programs and those that do not were examined on four different variables: Initial GAF scores, abstinence at intake, history of inpatient psychiatric treatment, and engagement in treatment on admission to the jail diversion program.

The table below shows that, while consumers completing two years in jail diversion had slightly lower GAF scores at intake and were somewhat less likely to have had a recent psychiatric inpatient admission, they were much more likely to be abstinent from substance abuse at intake.

	<i>Under Two Years</i>	<i>More than Two Years</i>
Avg. GAF	40.6	37.6
Abstinent	26%	57%
Inpt. admits	.79	.70

They were also somewhat more likely to be engaged in treatment at intake:

Engaged	<i>Under Two Years</i>	<i>More than Two Years</i>
Yes	40%	48%
Somewhat	39%	39%
No	22%	13%

Therefore, abstinence from substance abuse and engagement in treatment at intake appear to predict who will and won't remain in treatment for two years or more. The same factors that are associated with duration of treatment may also account for decreased rates of psychiatric hospitalization among persons remaining in treatment for more than two years.⁷

III. A statistical comparison of nine jail diversion sites.

This section of the report examines data collected from nine state and SAMHSA funded jail diversion sites in North Carolina and presents comparisons between each of these programs.⁸

⁷ For a more complete discussion of differential mortality as a threat to the internal validity of research, the reader is referred to Cook, T. & Campbell, D. (1979) *Quasi-Experimentation: Design & analysis issues for field settings*. Houghton Mifflin Co., Boston.

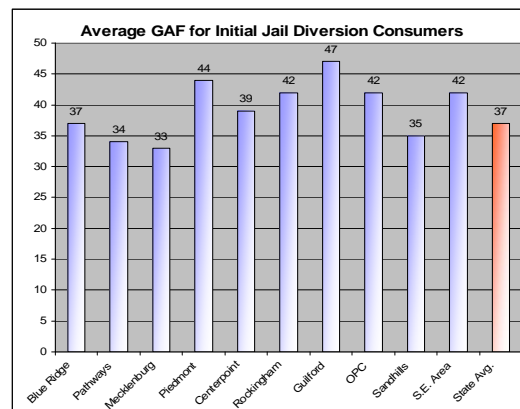
⁸ There are a total of twelve jail diversion sites. However, one program was just beginning to implement a pre-booking model of jail diversion and no statistical or outcomes data from it was available. The requirement to report outcomes data was waived for another program in order to support the area program's application for a Medicaid waiver. A third program submitted data on a non-random sample of their consumers receiving jail diversion services, and was therefore not considered an appropriate comparison group.

The Client Outcomes Inventory (COI) was used to collect these data.

Comparisons of baseline data:

Comparisons were made between jail diversion programs on the consumers entering these programs on the following variables: GAF scores, rates of inpatient psychiatric and substance abuse admissions, rates of substance abuse.⁹ These comparisons are as follows:

Differences between programs on GAF scores:

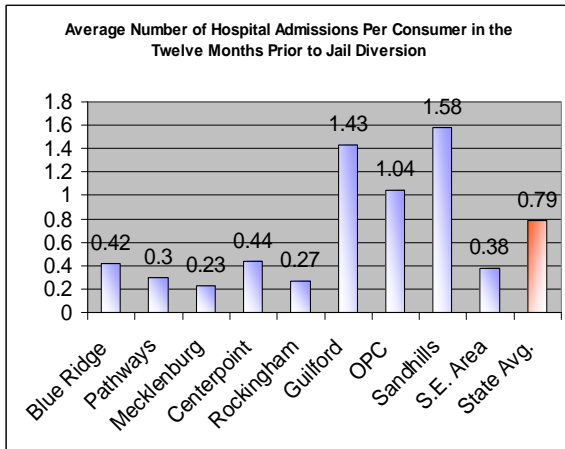


It is not clear if these data reflect actual differences between programs in clients' levels of functioning, or inter-rater unreliability.

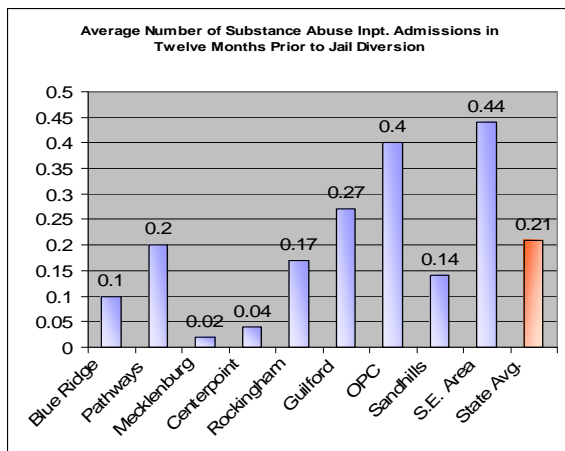
⁹ Differing rates of homelessness between programs were also examined, but these rates were too low (an average of 9% at intake) to yield meaningful between program comparisons. Differences between programs in their consumers' hours of paid employment were also examined but similarly yielded no meaningful comparisons.

Rates of admission to psychiatric and substance abuse inpatient treatment at intake:

These data presented in the chart below show large variations between programs in the extent to which their consumers received inpatient psychiatric treatment in the year prior to their involvement in the jail diversion program.



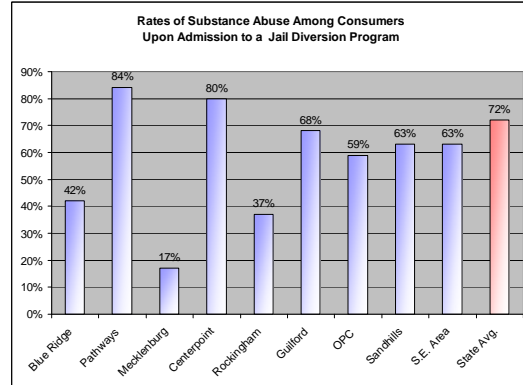
There were also large variations between program's rates of prior inpatient substance abuse treatment.



The reasons for these differences remain unclear.

Rates of substance abuse:

The extent to which consumers in jail diversion programs reported abusing substances at intake is presented in the following graph:¹⁰



The remarkably low rate of substance abuse among consumers in a few of these jail diversion programs likely reflects their under-reporting of substance abuse problems. An analysis of the 2003-2004 jail diversion data indicated that when a more thorough investigation is made into the actual rates of substance abuse among consumers of jail diversion services, the true rates were invariably higher than initially reported.¹¹

Numbers of consumers diverted:

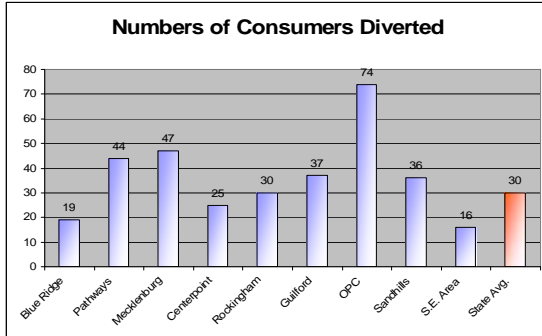
The results of the different jail diversion programs on a variety of outcome variables were examined. The first variable analyzed was the

¹⁰ The reader is referred to the 2003-2004 statewide jail diversion report for a discussion of the methodology used for measuring substance abuse among jail diversion consumers.

¹¹ The statewide average rate of substance abuse reflects the findings from the 2003-2004 report.

number of consumers that each program was able to divert.

The total number of consumers diverted by each of the jail diversion programs since their inception until July 1, 2005 is presented below:



Differences between the total numbers of consumers diverted by these programs were at least partially due to the length of time these programs have existed. Some of these programs were first funded in FY 99-00.¹² Other programs first received jail diversion funds in FY 00-01.¹³ Two programs were funded as late as FY 02-03.¹⁴ Some of these programs have been funded for several years, but only recently developed programs that conform to the accepted definition of jail diversion.¹⁵

It should also be noted that, although the OPC jail diversion program diverted significantly more

¹² Blue Ridge (renamed Western Highlands), Pathways, Piedmont, & New River

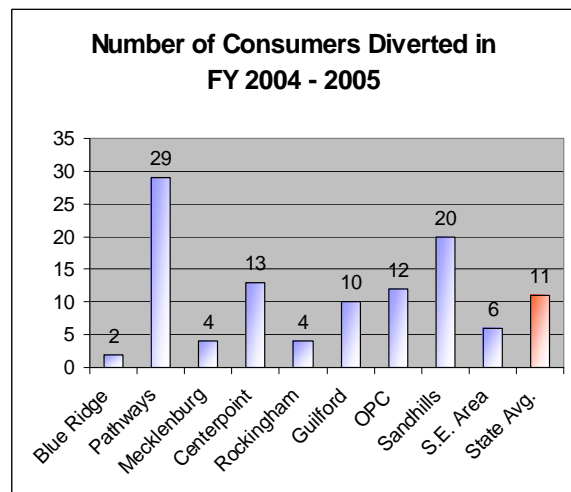
¹³ OPC, Centerpoint, Southeastern Area, Guilford, Mecklenburg, & Rockingham

¹⁴ Sandhills & Five County Services

¹⁵ i.e., Programmatic activities specifically designed to divert people with mental illness from the criminal justice system into appropriate mental health treatment in the community.

consumers, it receives almost twice the funding of any other jail diversion program due to its receipt of a Bureau of Justice Assistance (BJA) Grant.

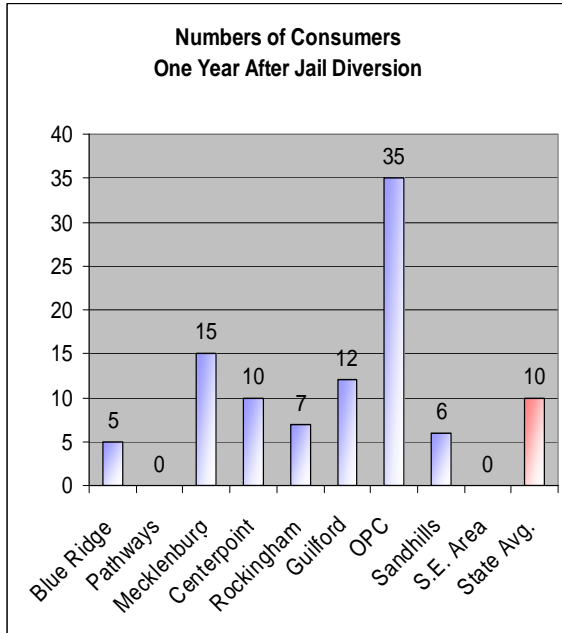
A more equitable comparison could be made between the numbers of people diverted in a specific year. The graph below shows the numbers of consumers diverted from jail in FY 04-05.



Although Pathways' jail diversion program had a particularly high number of new jail diversion consumers in FY 2004-2005, the large number of new consumers entering its program this year likely reflects its relatively large number of available program slots – Pathways had only one consumer receiving jail diversion services in 2003. Other programs may have had fewer new participants due to their need to maintain services for already existing caseloads of clients.

Consumers completing one year of jail diversion service:

The number of consumers completing one year of jail diversion service varied markedly by program.



The mental health court at OPC had significantly more consumers completing a year of jail diversion services than any other program. However, it should be noted that OPC's program received a BJA grant and therefore had about twice the funding and staff of the other programs. Also, the reader should consider that some programs, such as Sandhills, are much newer than others and are therefore less likely to have large numbers of consumers completing a year of services post-diversion.

This wide variation between programs in numbers of consumers completing a year of jail diversion services, along with the limited

outcomes data for most of these programs, resulted in insufficient statistical power to make meaningful across program comparisons of their longer term outcomes.

IV. Analysis of the data by model of jail diversion:¹⁶

Each of the jail diversion sites implemented the model of jail diversion that best fit its local system of care. Four primary models of post-booking jail diversion programs emerged: a mental health court, intensive case management, assertive community treatment teams (ACTT) and a short-term transition case management model. Outcomes for each of these models were compared.

Significant differences exist between all of these jail diversion programs, even those that have adopted similar models; there was no test of fidelity to these models and the within group differences may be much larger than the between group differences. The results may be due to a variety of factors other than program model.

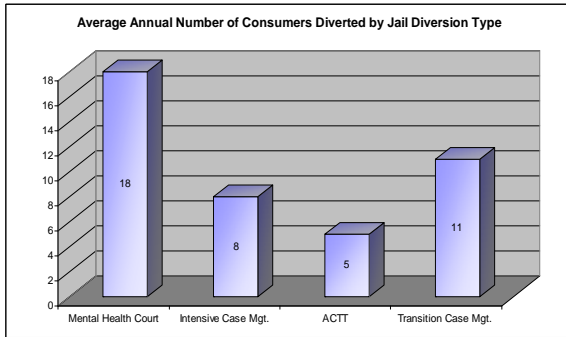
¹⁶ The models adopted by each of the jail diversion programs were as follows:

- Mental Health Court – OPC
- Intensive Case Mgt – New River, Pathways, Rockingham, S.E. Area, & Sandhills
- Assertive Community Treatment - Blue Ridge & Centerpoint
- Transition Case Mgt – Guilford & Mecklenburg.

Nevertheless, it was hoped that an analysis of these data by models of jail diversion program might illuminate the differences between these models in their ability to achieve certain goals and outcomes, and might help determine best practice approaches to jail diversion.

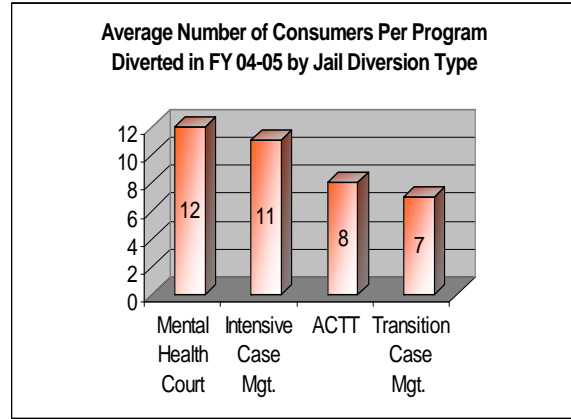
Number of consumers diverted by model of jail diversion:

Examining numbers of consumers diverted by jail diversion program models yielded the following results:



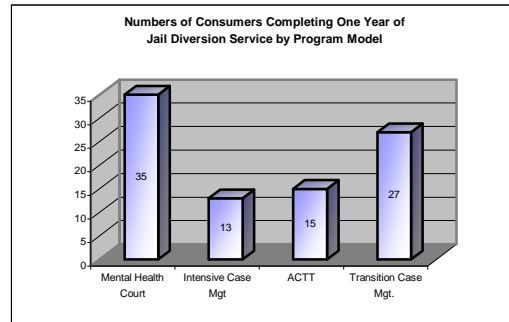
Although this graph seems to suggest that mental health courts divert greater numbers of consumers from jail, the mental health court received twice the funding of the other programs, and should therefore be expected to have diverted approximately twice as many consumers.

The following chart shows the average number of consumers diverted per program in FY 04-05 by type of jail diversion program.



One year outcomes data by model of jail diversion program:

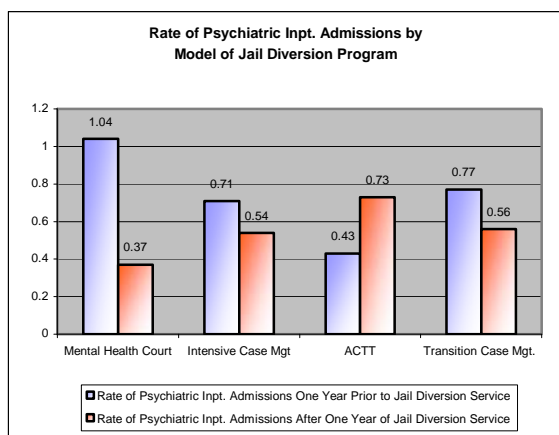
Although the lack of sufficient data did not allow for between individual program comparisons of one year outcomes, there were sufficient one year outcomes data to allow for across program model comparisons.



One year outcomes for consumers receiving services through these models of jail diversion were examined by comparing their differing rates of inpatient hospitalization, substance abuse inpatient treatment, abstinence from substance abuse, and re-arrest within one year after being diverted from jail. The results are as follows:

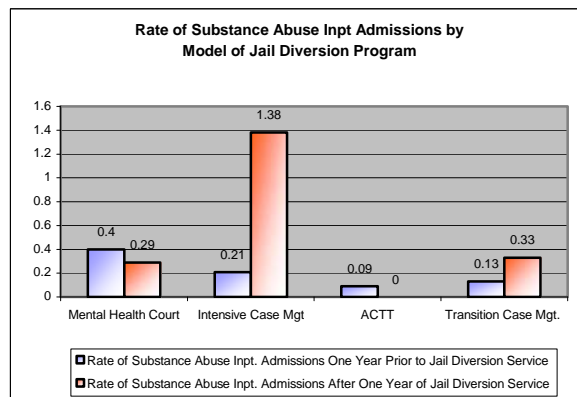
Rates of psychiatric and substance abuse inpatient hospitalization:

Psychiatric inpatient hospitalization rates for consumers remaining in jail diversion programs in the year following being diverted were examined by program model, and are illustrated in the following chart:



These results suggest that, while inpatient psychiatric admissions are usually reduced among consumers remaining in jail diversion programs for a year or longer, inpatient psychiatric admissions increased among consumers receiving jail diversion services through an ACT Team. Although the reason for this increase is unclear, it might be due to the higher severity of psychiatric and functional impairment among consumers receiving this service; the admission and continuing stay criteria for ACT Team services are more stringent than the admission and continuing stay criteria for the other outpatient treatment services received by jail diversion consumers.

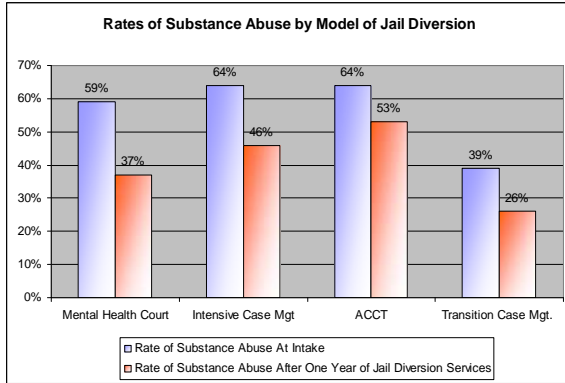
The rates of substance abuse inpatient admissions by program model in the year before and after entering a jail diversion program are shown in the following chart:



The large increase in the rate of substance abuse admissions among jail diversion consumers receiving intensive case management services is at least partly due to one extreme outlier; a consumer who received twelve inpatient substance abuse admissions in the year after entering a jail diversion program. Eliminating this outlier resulted in an admission rate of .46, only slightly higher than that of the other program models.

Rates of substance abuse by model of jail diversion:

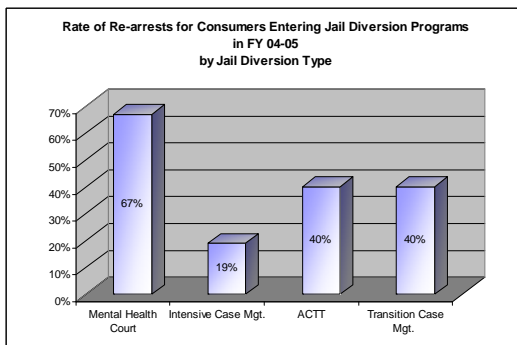
Next, rates of substance abuse upon admission to jail diversion programs and after one year of service were compared between models of these jail diversion programs.



For all models of jail diversion programs, rates of substance abuse declined among consumers remaining in these programs for more than a year.¹⁷

Re-arrest rate by model of jail diversion.

Re-arrest rates for the different models of jail diversion programs are compared in the chart below.

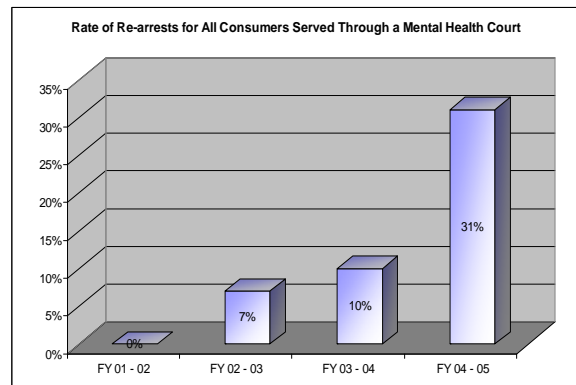


This chart indicates there is a significantly higher re-arrest rate for consumers entering a jail diversion program through a mental health court in FY 04-05. Perhaps the

¹⁷ Rates of substance abuse among consumers discharged from jail diversion programs prior to a year of treatment were only slightly (7%) higher than for consumers completing a year of jail diversion. Therefore, this slightly higher rate of attrition for substance abusers could not have completely accounted for these results.

intensive legal scrutiny given to consumers in mental health courts results in their greater likelihood of being re-arrested.

The re-arrest data for the mental health court for previous years was examined to determine if its high rate of re-arrests of consumers in 04-05 is an anomaly. The re-arrest rates for consumers in each of the four fiscal years that the mental health court has been in operation are presented in the chart below:



These data show that increasing percentages of consumers receiving services through a mental health court are being re-arrested. This trend may reflect this court's increasing acceptance of consumers who are at greater risk of re-arrest.¹⁸ These data also suggest that the high re-arrest rate of persons receiving jail diversion services through a mental health court is a recent phenomenon.

¹⁸ A trend consistent with an evolution in mental health courts as noted in: Redlich A., Steadman, H., Monahan, J., Petrila, J., & Griffin, P. (2005) *The Second Generation of Mental Health Courts., Psychology, Public Policy and Law*, Vol.11, 4., 527-538.

Summary and conclusions:

- Additional research is needed to determine if the lack of fidelity to the integrated treatment approach to persons with co-occurring mental illness and substance abuse problems found in this informal survey exist throughout our mental health system in North Carolina. Training or other measures may be needed to assure that family psycho-educational services are provided.
- Further study is needed to determine if the decrease in psychiatric hospitalization rates after two years of jail diversion services are an artifact of “differential attrition.”
- It is unclear if the trend towards higher rates of re-arrest among consumers served by a mental health court reflects this court’s increasing use of jail as a sanction, a trend to accept higher risk offenders, or both. Further research is needed to determine the reasons for this trend.
- Additional research is needed to compare the outcomes of consumers in each of these models of jail diversion programs, and to outcomes of consumers in each of these individual jail diversion

programs. This research will help identify the jail diversion models, programs, and practices that are most promising for consumers in North Carolina.

- Changes have occurred in the Division of MH/DD/SAS outcome data requirements. The Division of MH/DD/SAS now mandates the collection and submission of outcomes data on all recipients of public mental health services in the state. These changes have enabled the consolidation of the statewide jail diversion outcomes effort with the larger Division of MH/DD/SAS outcomes collection initiative. Future jail diversion outcomes reports will rely upon data collected with the NC TOPPS data collection tool, and managed by the Quality Management Team.
- As additional data is collected, more sophisticated multivariate statistical techniques will be able to be used to test the hypotheses presented in this report. A more scholarly article is planned when these data become available.

Acknowledgements

Many people contributed to the production of this report, but the most important were the jail diversion coordinators and staff. In

addition to collecting data upon which this report is based, their dedicated work is responsible for any positive outcomes contained in this report. Without them the jail diversion project would not exist. They are as follows:

Jeffrey Demagistris – OPC LME

Amber Humble – Centerpoint LME

Janet McConahay – S.E. Area LME

Sharon Neville and Shirley Davis
- Guilford / ADS, Inc.

Samuel Ndupu – Mecklenburg LME

Elizabeth Adams Johnson
– Alamance – Caswell -
Rockingham LME

Jill Stephenson and Amy Ford
– Piedmont LME

Dawn Varner
- Western Highlands / New
Vistas (previously Blue Ridge)

Gail Hawkinson – New River LME

Blair Pettis, Adam Kurtzman and Barb Hallisey – Pathways LME

Jennifer Herb and Sharon McDaniel
– Sandhills – Randolph LME

Glenn Field and Al Mooney
– Five County Services.

In addition, the author is grateful to the following staff in the Division of MH/DD/SAS whose thoughtful suggestions and constructive comments led to many improvements in the presentation, writing, and content of this report:

Sonya Brown and Marti Lamb - Justice Systems

Bert Bennett - Best Practices

Ken Marsh - LME System Performance

Ward Condelli – Quality Management

Special thanks are due to **Flo Stein**, Chief of Community Policy Management and the Division of MH/DD/SAS Executive Leadership Team for their support of jail diversion in North Carolina.