

**BOULDER COUNTY PREVENTION
AND INTERVENTION PROGRAM**

**A Community Partnership Supporting Youth,
Families, and Schools**

2012 – 2013 SCHOOL YEAR



SUBMITTED TO BOULDER COUNTY PUBLIC HEALTH
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BY OMNI INSTITUTE



Program Background

In 1987, the Intervention Program was established through a collaborative partnership between Boulder County Public Health (BCPH) and St. Vrain Valley School District (SVVSD). This was in response to a request made by several SVVSD high schools for on-site substance abuse evaluations of at-risk students. The first on-site “Interventionist” position conducted assessments at Skyline High School, located in Longmont. The role of the interventionist was soon expanded to address all high-risk behaviors. Shortly thereafter, Boulder Valley School District (BVSD) joined the program with staff contracted through the City of Boulder Youth Services to serve Boulder city schools and BCPH to serve other Boulder county schools. The partnership was further expanded through funding from Communities for a Drug-Free Colorado, and later with support from the Colorado Department of Education Safe and Drug-Free Schools and Communities, the Colorado Department of Public Health and Environment (CDPHE) and the Alcohol and Drug Abuse Division (ADAD). The program was later renamed the Boulder County Prevention and Intervention Program (BCPIP) to better reflect the important role prevention strategies had grown to play in meeting the needs of participating schools and communities. In 1990, the partnership was formalized with the formation of an advisory board and the identification of the BCPH Community Health Division and the City of Boulder Division of Children, Youth, and Families as the lead administrative agencies for the partnership. These agencies were to work in close collaboration with St. Vrain Valley and Boulder Valley School Districts; the City of Longmont; Mental Health Partners; and the Town of Lyons. Clinical supervision was the assigned responsibility of Mental Health Partners. In 1988, this partnership was recognized by Communities for a Drug-Free Colorado and the governor of Colorado as an outstanding collaborative effort.

The program places master’s-level counselors and social workers, referred to as “Prevention/Interventionists” in 30 middle and high schools throughout the Boulder Valley and St. Vrain Valley school districts to help reduce at-risk behaviors, provide the help they need, and increase their readiness to learn, in order to enhance academic success, and support positive social/emotional development. Prevention/Interventionists provide a variety of services including: assessing mental health and substance use/abuse; providing brief, solution-focused counseling; connecting youth and families with services that can help; educating youth, teachers, and parents about important adolescent issues; quickly responding to school/community trauma; providing referral and follow-up to community agencies and coordination of community-based services offered on-site at schools; partnering with school staff to create plans to address youth concerns and issues; sponsoring peer counseling and mediation programs; offering psychosocial-educational support groups and youth leadership development opportunities; offering parenting skills

development trainings and presentations; and sponsoring graduate-level intern school year placements. All services are voluntary and provided free of charge to students and families.

A guiding principle of BCPIP is to incorporate evidence-based, state of the art health practices into policies, programs, and services. Recommendations from OMNI's previous school year evaluations are put into practice to improve current school year services and to strengthen the program's outcome evaluation design. The principal function of the BCPIP is to promote the health and resiliency of adolescents and their families by providing effective school-based, health related prevention and intervention services, focused on the characteristics of effective risk behavior education and prevention. These characteristics include correct problem diagnosis, selection of appropriate and multiple services with sufficient intensity, repetition and consistency of message, and duration over time. All services are focused on strengthening the capacities of youth while decreasing the risk factors that negatively impact them and their families.

Development of the BCPIP Evaluation Plan

In August 2002, BCPH contracted with the OMNI Institute (OMNI) of Denver, Colorado to assist in the development of an evaluation protocol for the Prevention and Intervention Program. The evaluation of the program to that point had been challenging because of the variety of populations served, the range of services provided, and the quantity of outcomes that could be selected to gauge program impacts. This resulting complexity is due, in large part, to the program's philosophy, which holds that services are most effective when they are individually tailored to the unique needs and climate of the school community. The variability in program services is somewhat incompatible with typical evaluation efforts that attempt to hold program services relatively constant to better assess program effects and purported causes. However, the 30 participating schools have different needs and, to meet these, Prevention/Interventionists are required to employ a variety of prevention and intervention skills and approaches. Thus, the evaluation approach needed to consider the non-standard delivery of services while, at the same time, selecting outcomes that could uniformly gauge program impacts.

To work toward the development of an evaluation plan, OMNI facilitated a group discussion with program staff to begin the process of identifying process and outcome areas and, through their participation, cultivate buy-in from these same staff. This was followed with several meetings between OMNI and key BCPIP staff that led to a description of the program's internal logic. These meetings culminated in the creation of a logic model outlining program phases (e.g., intake, assessment, service provision), service approaches (group, individual, etc.) and possible outcome areas (see the Appendix for this logic model).

Once the logic model was completed, intake and service tracking forms were developed to collect basic information on students served and services provided. In addition, OMNI developed a management information system that could be used to store, manage and report information collected from these two forms. This system has subsequently been migrated to a web-based platform that incorporates intake and service tracking data entry, replacing the need for paper forms.

The online system is hosted by the City of Boulder and data are downloaded for use by program management and for analysis by OMNI.

Finally, the OMNI-BCPIP team examined a number of possible evaluation instruments that might be used to measure program effects. Any selected tool would need to have strong and precise measurement qualities, be easy to administer, and include measurement across a broad set of outcome areas. After conducting a thorough search, the team selected the Child and Adolescent Functional Assessment Scale, or CAFAS. The CAFAS (Hodges, 1990, 1994) is an outcome measurement instrument designed to measure functional impairment in children and adolescents. It consists of separate scales in the areas of Behavior Toward Others, Community, Moods/Emotions, Home, School, Self-Harmful Behavior, Substance Abuse, and Thinking. Importantly, the instrument was found to be suitable for youth, ages 7 to 17, and to be both valid and reliable for low to middle socio-economic groups, as well as African-American, Caucasian, and Hispanic/Latino race/ethnicity groups. In addition, the test's measurement properties for these groups were found to be acceptable for use in the program (test-retest: 0.78, inter-rater reliability: 0.92, internal consistency: 0.73 to 0.78, and criterion-related validity: rated acceptable).¹

The CAFAS requires that all raters receive training to become reliable in their administration of the instrument. To ensure that this was effectively accomplished, the program's clinical supervisor attended a "training the trainer" program on the CAFAS. She subsequently trained all Prevention/Interventionists. For the 2012-2013 school year the BCPIP began using an on-line training program that is now available to train and certify new CAFAS raters.

While the evaluation plan was phased in over time, with process measures being introduced before the CAFAS, a complete instructional packet was developed by BCPH, detailing the specific steps Prevention/Interventionists were to follow in the collection and management of data. This instructional packet was reviewed with each Prevention/Interventionist to further ensure the integrity of the evaluation plan's implementation.

This was the tenth year in which the CAFAS was used, and the second year using a new sampling technique that lowered administration costs. In previous years, Prevention/Interventionists were instructed to collect data on every student who was provided intervention, treatment, or crisis intervention services but for the last two years the CAFAS was administered only to those students whose birthdays were on an odd-numbered date (e.g., June 7th). An analysis of previous years' data showed that this technique does not significantly alter the results or compromise the representativeness of the data. In all cases, informed consent was required in order for students to participate in the evaluation. If consent was refused, students were deemed ineligible for the evaluation, but continued to receive crisis intervention if needed.

Other CAFAS administration changes that began in the 2004-2005 school year and have continued are a "blind" post-test whereby Prevention/Interventionists do not have access to previous scores

¹ Hodges, K. (1990, 1994 revision). Child and Adolescent Functional Assessment Scale. Ypsilanti, MI: Eastern Michigan University, Department of Psychology.

when administering post-tests; CAFAS tests are not administered to students in non-therapeutic treatment; and the elimination of the previous requirement that a student had to receive three service sessions before the first CAFAS was administered. Prior to the 2010-2011 school year, the CAFAS was administered to students every three months as long as they were receiving services. The first and last administrations then served as the “pre-test” and “post-test” for analysis. Starting in 2010-2011, the Prevention/Interventionists were instructed to administer the CAFAS to students once at the beginning of service and again at the end of service or at the end of the school year, whichever came first. This change saved money by reducing the total number of administrations while maintaining the pre-test/post-test design.

This is the tenth annual report of the process and outcome data since the inception of the program evaluation plan. The first report contained data from the 2003-2004, and this report will focus on data collected during the 2012-2013 school year.

Findings

Report findings are presented in two sections. The first section provides selected descriptive information on program participants and services. The second section provides highlights of outcomes in relation to collected CAFAS and service data and is prefaced by brief explanations of how to interpret statistical tests.

a. Descriptive Data

BCPIP provides a diverse and flexible array of prevention and intervention services designed to meet students' needs at the most appropriate level.

During the 2012-2013 school year, 2,143 students were provided with intervention services. Students are identified as having received intervention services if they have at least one encounter with a Prevention/Interventionist that involves some combination of assessment, crisis intervention, case management, brief solution focused counseling, family involvement, or group counseling. This is estimated to reflect about 10% of all students who received services through the program. The use of intake and service forms provides a variety of data on these students, which are summarized in the following pages.

Presenting Issues and Services Information

In order to correctly assess student issues during the intake procedure, Prevention/Interventionists complete an assessment of a student's general areas of concern as well as those which will serve as the focus of intervention services. For data tracking, the issues identified in this initial assessment are tied to a student's treatment "set." In addition, Prevention/Interventionists then record the issues that were focused on during each particular encounter with the student that occurs within a treatment set. The table below lists, in descending order, the number of students who had encounters that focused on each issue area, and the total number of student encounters in that focus area. Because student encounters may focus on more than one problem area, these counts are not mutually exclusive and, therefore, not additive.

The Encounter/Client ratio shows the average number of encounters per client among clients that deal with each issue. A higher ratio of encounters per client for a given issue might suggest that a higher level of service is required to treat that issue. The issues with the three highest and three lowest Encounter/Client ratios are highlighted in the table.

Frequency Count of Presenting Issues

Presenting Issue	Student Count	Encounter Count	Encounter / Client Ratio
School Failure/Success	1,168	5,653	4.8
Family Problems	1,163	5,137	4.4
Stress	902	3,477	3.9
Depression	674	2,694	4.0
Relationship	476	1,645	3.5
Anxiety	437	1,904	4.4
Self Esteem	435	1,320	3.0
Anger	427	1,440	3.4
Social Skills	413	1,400	3.4
Conflict Resolution	394	1,169	3.0
Setting Limits/Boundaries	372	1,298	3.5
Transition	361	1,077	3.0
Suicidal Ideation	337	1,799	5.3
Alcohol/Drugs	329	1,054	3.2
Grief or Loss	327	1,197	3.7
Concern for Others	267	609	2.3
Self-Harm	228	992	4.4
Harassment (Victim)	159	361	2.3
Abuse, Domestic Violence (Victim)	146	508	3.5
MH Diagnosis by Other Provider	138	484	3.5
Body Image Issues	126	329	2.6
Physical health condition	90	285	3.2
Legal System	86	259	3.0
Sexuality/Reproduction	80	211	2.6
Cultural Issues	73	178	2.4
Sexual Orientation	69	193	2.8
Sexual Assault, Recovery	65	431	▲ 6.6
Harassment (Perpetrator)	52	113	▼ 2.2
Homeless or Runaway	50	171	3.4
Teen Parenting	44	133	3.0
Violence (Perpetrator)	22	47	▼ 2.1
Independent Living	18	105	5.8
Gender identity	17	108	▲ 6.4
Homicidal Ideation	13	36	2.8
Violence (victim)	13	82	▲ 6.3
Tobacco	11	22	▼ 2.0
Gang Involvement	7	33	4.7

School Failure/Success, Family Problems, and Stress were the three most prevalent presenting problems as measured by number of students and number of encounters. The issue with the highest encounter ratio was Sexual Assault Recovery, with an average of 6.6 encounters per client. The issue with the lowest encounter ratio was Tobacco, with an average of 2.0 encounters per client. Among the top ten most prevalent presenting issues, School Failure/Success had the highest encounter ratio (4.8), while Self-Esteem Conflict Resolution had the lowest (3.0).

Following best practice approaches, multiple types of services are provided through the BCPIP. As presented in the following table, Assessment was the service provided to the highest number of students, while Case Management/Consultation was the service provided at the highest number of encounters. Because multiple services can be provided to the same student, these numbers are not mutually exclusive or additive.

Counts by Service Type

Service Type	Student Count	Encounter Count	Encounter / Client Ratio
Assessment	1,468	2,995	2.0
Case Management/Consultation	1,393	5,102	3.7
Treatment	1,071	4,652	4.3
Family Involvement	832	2,344	2.8
Informal Contact	679	1,363	2.0
Referral	363	504	1.4
Group	73	515	7.1

The Encounter/Client ratio shows the average number of encounters per client for each service type. Students who received Group treatment had an average 7.1 encounters with that service type.

CAFAS

The CAFAS was administered this year at least once to 383 students, which is 18% of the population that received intervention services. The remainder of this report will focus primarily on these 383 students. On most demographic measures, these students are similar to the overall intervention population; however females are slightly over-represented in the CAFAS group.

In the overall intervention population, 61.4% of the students were female. Of the students who received at least one CAFAS administration, an even larger majority (70.5%) were female (N=270), and 28.5% were male (N=109). Four students identified as transgender (1.0%). The table below displays the number and percentage of the genders represented.

Gender Breakdown of Clients

Gender	N	Percent
Female	270	70.5
Male	109	28.5
Transgender	4	1.0
Total	383	100.0

Almost 3 in 4 students were non-Hispanic Caucasian (70.8%, N=271), while 20.1% (N=77) of the students were Latino/Hispanic. All other ethnicities represented less than 9% of the population, as displayed in the table below.

Ethnic Breakdown of Clients

Ethnicity	N	Percent
African-American/Black	3	0.8
Asian/Pacific Islander	18	4.7
Caucasian/White	271	70.8
Latino/Hispanic	77	20.1
Mixed Ethnicity	12	3.1
Native American/Alaska Native	2	0.5
Total	383	100.0

This ethnic distribution is similar to the overall intervention population and to the larger BVSD and SVVSD school population, which was 67.8% white and 22.8% Latino in the Colorado Department of Education fall 2012 pupil count.

A majority of the students were in the high school grades (67.1%, N=257), with 32.9% (N=126) in the elementary/middle school grades. The highest count was in 10th grade (21.1%, N=81).

Grade Breakdown of Clients

Grade	N	Percent
6 th	32	8.4
7 th	47	12.3
8 th	47	12.3
9 th	68	17.8
10 th	81	21.1
11 th	59	15.4
12 th	49	12.8
Total	383	100.0

b. Program Outcomes

CAFAS Administration

The outcome portion of the evaluation plan is largely based on a simple pre-test/post-test design using the CAFAS. Almost all (94.3%) of the students who were administered the CAFAS had two or more administrations. However, 16 students were given the CAFAS only once, and are therefore excluded from the pre-test/post-test comparative analyses in this report. For the six students who had three or four administrations, the post-test is defined as the last administration.

Number of CAFAS Administrations

CAFAS Count	N	Percent
1	16	4.2
2	361	94.3
3	5	1.3
4	1	0.3
Total	383	100.0

Interpreting Statistical Tests of Significance

The statistic used to measure the pre-post change is called a **paired-samples t-test**. Essentially, this test examines the difference between each youth's pre-test and post-test score, and averages this difference across all students. Once analyzed, this reveals an improved score (became lower), a worsened score (became higher), or no change (score stayed about the same). It is often confusing for people not familiar with statistics to understand how to interpret these changes. Researchers typically use terms such as "p-values" and "statistical significance" to describe their results, and these often lack meaning for the typical reader. While confusing, these are important concepts that should be understood to fully comprehend the meaning of presented results.

In order to compare outcomes between different groups, defined by demographic or other criteria, an **independent-samples t-test** is used. This test compares the means between two independent groups to determine if the difference is statistically significant.

Statistical significance simply means that an observed change is probably not a chance occurrence. That is, if a score changes from 10 on a pretest to 12 on a posttest, this change of 2 could be real or it could simply be an artifact of chance variation in the data. For this reason, researchers report **p-values** or **probability values** along with their results. These simply reflect how confident we can be that an observed change is real and not due to chance error. By convention, researchers use a probability value of .05, or 5%. This means that we are willing to accept a 5% probability or chance ($p=.05$) that an observed change *is not real*. It is important to note that there is nothing singular about 5%. A researcher may want to set a more stringent condition, and only accept a 1% chance that results are false. P-values of 1% or less are typically referenced as being highly significant. Importantly, if a generated p-value is greater than .05, researchers tend to accept the possibility that the difference could have been due to chance, and therefore do not deem the difference to be statistically significant.

Finally, a frequently overlooked issue has to do with whether a change is **meaningful** beyond being simply statistically significant. That is, a change can be **statistically significant** (is determined to be a real change) but be so small that it is of little **practical significance**. Therefore, we first assess whether a change is statistically significant and, if so, examine how large the change is to decide whether it reflects a meaningful improvement for students.

One way to gauge the magnitude of change is by calculating the effect size. Effect size helps answer the question: *how much* of an effect did the program have? Cohen's *d* is a commonly used effect size statistic in the social sciences. Its unit of measurement is standard deviations, and the following guidelines can be used in interpreting its valuesⁱⁱ:

0.2	=	small effect
0.5	=	medium effect
0.8	=	large effect

ⁱⁱ Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.

Outcome Findings

Intake

The CAFAS consists of eight scales describing a student's level of dysfunction in eight distinct domains: Behavior Toward Others, Community, Moods/Emotions, Home, School, Self-Harmful Behavior, Substance Abuse, and Thinking. Each scale ranges in score from zero to thirty, where a higher score indicates a higher level of dysfunction in the given domain. Thus, the total CAFAS score (combining all eight domains) can range from 0 to 240. The total CAFAS score can then be broken down into five categories of severity:

- None or Minimal (Total Score = 0 to 10)
- Mild (20 to 40)
- Moderate (50 to 90)
- Marked (100 to 130)
- Severe (≥ 140)

To ensure data comparability, a total score is only calculated for students who have scores on at least four of the eight domains. Students who do not have four domain scores are coded as "Missing" in total score analyses.

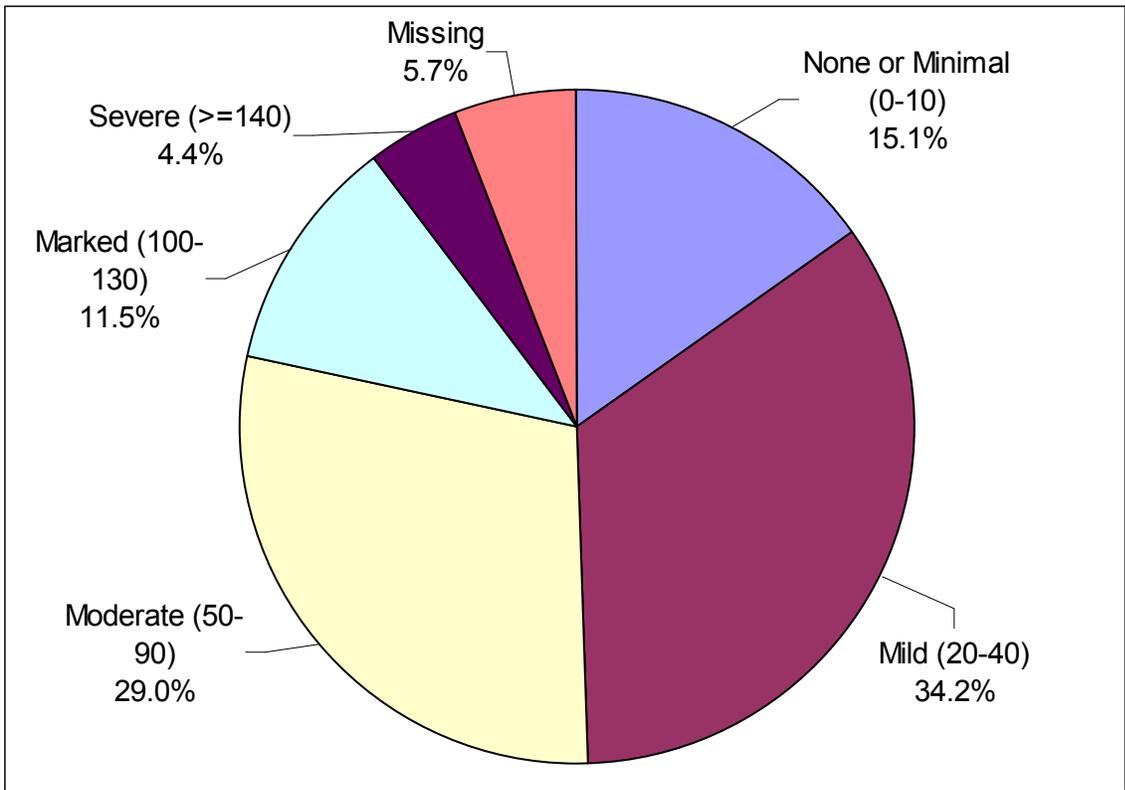
The figures below illustrate the level of dysfunction on the first CAFAS for all students. It is important to note that intervention services are designed to work most effectively with students who score in the mild to moderate range, as is typical for most public school-based programs. Youth whose behavior falls in the marked or severe impairment areas are more appropriate for residential/institutional settings and are referred by program staff to these more intensive service settings.

Total Score Categories (Pre)

Category	N	Percent
None or Minimal (0-10)	58	15.1
Mild (20-40)	131	34.2
Moderate (50-90)	111	29.0
Marked (100-130)	44	11.5
Severe (≥ 140)	17	4.4
Missing	22	5.7
Total	383	100.0

Most students (83%) fell into the three lowest dysfunction categories. A plurality of students (34%) were in the Mild category.

Dysfunction at Pre-Test (Total CAFAS Score Categories)

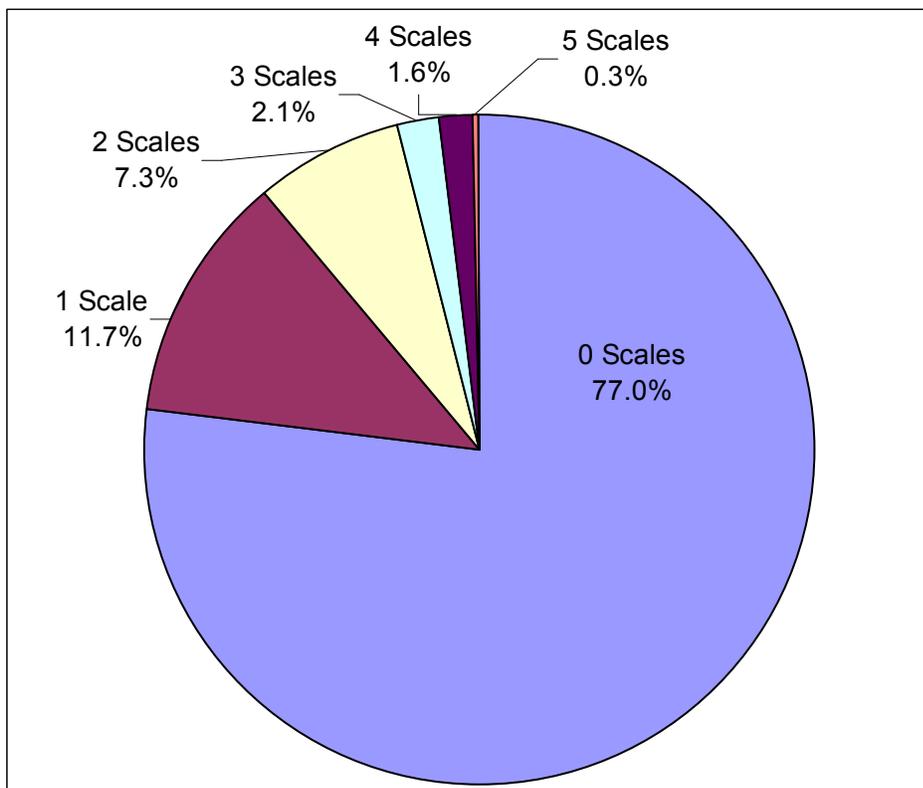


The level of severity can also be gauged by looking at the number of scales (out of eight) on which a student is rated as severe (received a score of 30). Most students (77%, N=295) were not severe on any scales at intake. Slightly less than one quarter of students (23%, N=88) were rated as severe on one or more scales. Most of the students who rated severe on any scales were rated severe on only one scale (12%, N=45).

Number of Scales Rated Severe at Intake

Number of Scales	N	Percent
0	295	77.0
1	45	11.7
2	28	7.3
3	8	2.1
4	6	1.6
5	1	0.3
Total	383	100.0

Number of Scales Rated Severe at Intake



Change from Pre-Test to Post-Test

To ensure data comparability, a total CAFAS score is only calculated for students who have scores on at least four of the eight domains. Among the 367 students with at least two CAFAS administrations, 24 were missing a total score and are therefore excluded from analyses comparing pre-test to post-test. For the 343 students with at least two total scores, the change in scores is measured in two ways. First, the change in each student's score is calculated and placed into one of three change categories. If the final score is more than 10 points lower than the pre-test score it is classified as a "Decrease"; if it is more than 10 points higher it is classified as an "Increase"; and if the final score is within 10 points (+/-) of the pre-test score it is classified as having stayed "About the Same."

Frequency of Change on Total Score

Change	N	Percent
Decrease	150	43.7
About the Same	169	49.3
Increase	24	7.0
Total	343	100.0

As shown in the above table, 43.7% of students demonstrated an improvement (a decrease in total score) from pre-test to post-test and 49.3% stayed about the same on the total score. Overall, 93% of students in 2012-2013 either showed an improvement or stayed the same on the total CAFAS score.

A second measure of change is the difference between the means of each scale (and the total score) on the pre-test and post-test. These changes in the means are tested for statistical significance to determine if the difference is real or potentially due to random variation. Once statistical significance is confirmed, the changes can be discussed in terms of practical significance.

Change from Pre to Post (Paired T-Test)

Scale/Measure	N	Pre	Post	Change	% Change	P	Sig.	Effect Size (Cohen's d)	
Behavior Toward Others	341	6.83	4.78	-2.05	-30.0%	0.000	**	0.34	medium
Community	340	2.18	1.50	-0.68	-31.1%	0.009	**	0.14	small
Moods/Emotions	352	15.17	10.37	-4.80	-31.6%	0.000	**	0.64	large
Home	343	6.44	4.26	-2.19	-33.9%	0.000	**	0.36	medium
School	349	10.60	8.57	-2.03	-19.2%	0.000	**	0.24	medium
Self-Harmful Behavior	339	6.40	3.13	-3.27	-51.2%	0.000	**	0.43	medium
Substance Abuse	332	4.52	3.49	-1.02	-22.7%	0.000	**	0.20	small
Thinking	318	2.11	1.70	-0.41	-19.4%	0.080	^	N/A	N/A
Total Score	343	53.53	37.08	-16.44	-30.7%	0.000	**	0.63	large

Significance guide:

** P<.01 (Highly Significant)

* P<.05 (Significant)

^ P<.10 (Approaching Significance)

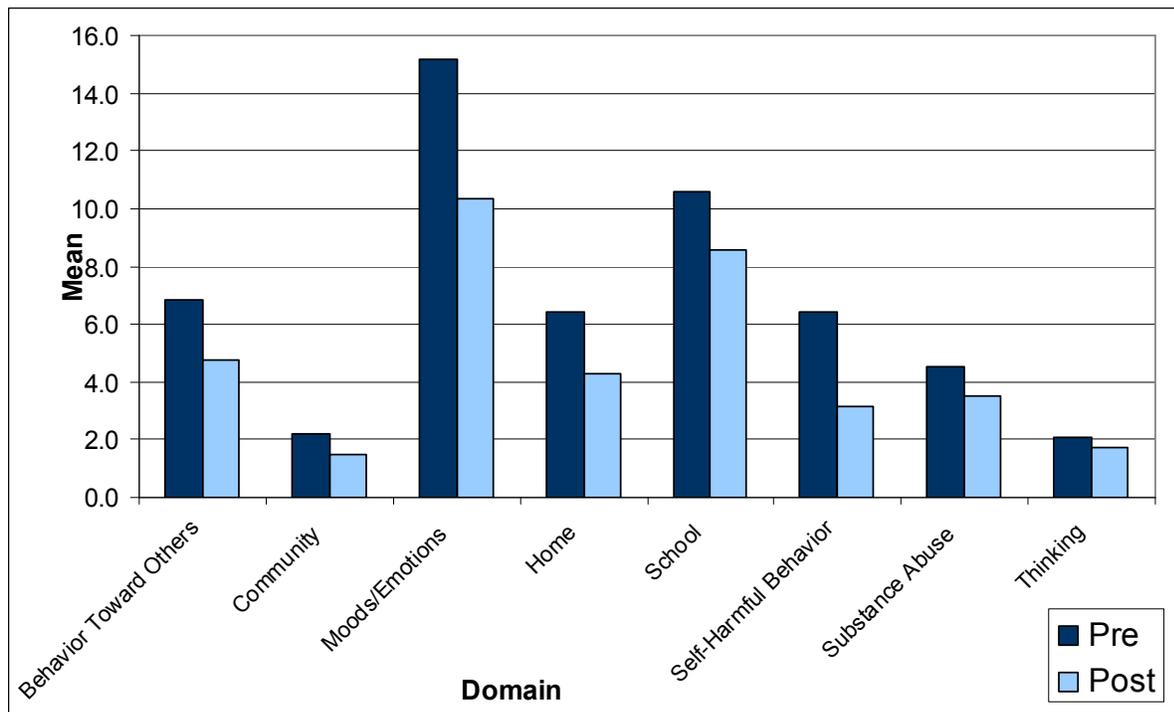
The preceding table shows that on seven of eight CAFAS scales and the total CAFAS score, the group mean at post-test was lower than the mean at pre-test. These differences are statistically significant at the $p < .01$ level, meaning the difference between the pre-test/post-test means is very unlikely to be due to random variation in the data. The one exception was the Thinking domain, where the pre-test mean was already low and the change approaches significance ($p = .08$).

The scale that saw the biggest absolute improvement (decrease in mean score) was Moods/Emotions (-4.80), which also had the largest effect size (0.64). This scale had the highest mean at pre-test, so it is logical that it had the most room to improve.

The largest percentage improvement (-51%) occurred on the Self-Harmful Behavior scale, though the effect size was medium. The smallest percentage improvement (-19%) was seen on the School Failure/Success scale, despite it having the second highest level of dysfunction at intake with a pre-test mean score of 10.6.

Overall, the scale means declined an average of 29.9%, and the mean of the total score fell 30.7%, with a large effect size (0.63). These changes in the scale means are represented graphically in the figure below.

Mean Score of Scales on Pre-Test and Post-Test



With wide variation in the levels of dysfunction across the scales at pre-test, the largest absolute improvement at post-test occurred on the Moods/Emotions scale and the largest percentage improvement was seen on the Self-Harmful Behavior scale.

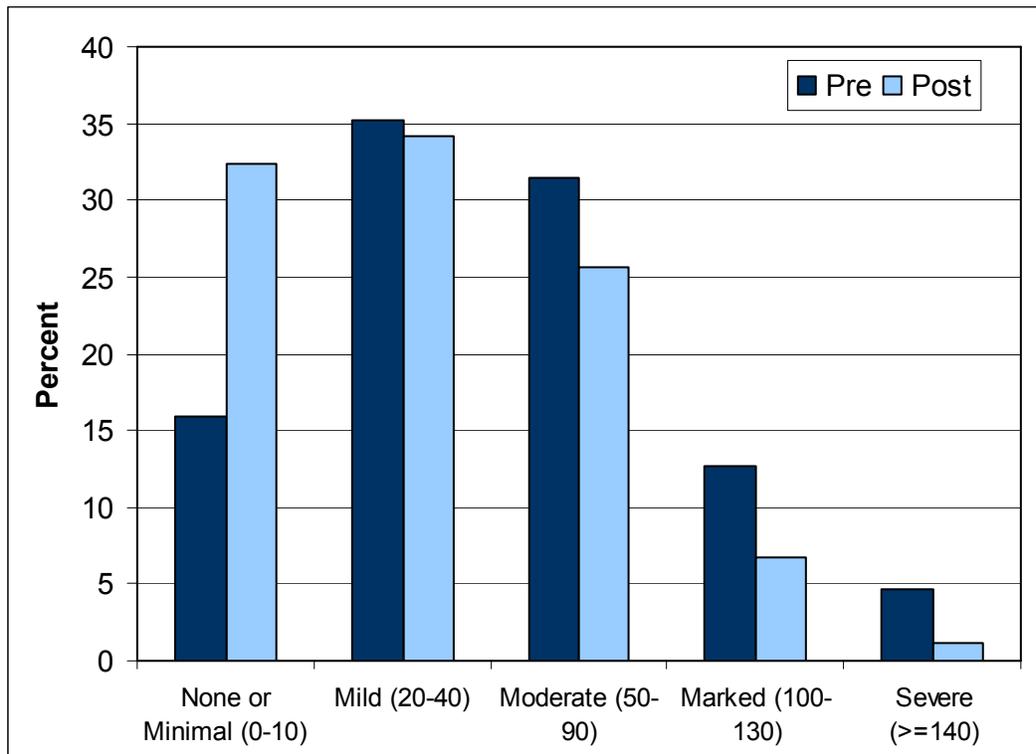
Overall Dysfunction at Last CAFAS

Earlier in this report, a frequency distribution of the five categories of dysfunction at intake was presented for all students with at least one CAFAS administration. Below are the frequency distributions for both the intake (Pre) scores and the final CAFAS (Post) scores for students with at least two administrations.

Total Score Categories (Pre/Post)

Category	Pre N	Post N	Pre Percent	Post Percent
None or Minimal (0-10)	55	111	15.9	32.4
Mild (20-40)	122	117	35.3	34.1
Moderate (50-90)	109	88	31.5	25.7
Marked (100-130)	44	23	12.7	6.7
Severe (>=140)	16	4	4.6	1.2
Total	346	343	100.0	100.0

Total CAFAS Scores (Pre/Post)



On the first CAFAS, 16% (N=55) of the 346 students were rated as having no or minimal dysfunction based on total score. On the last CAFAS that number doubled to 32% (N=111) of 343 students. The percentage rated as Mild fell slightly from 35% (N=122) to 34% (N=117). The percentage of students rated as Moderate fell from 32% (N=109) to 26% (N=88). The percentage rated Marked fell from 13% (N=44) to 7% (N=23), and the percentage rated Severe fell from 4.6% (N=16) to 1.2% (N=4). This indicates that many students moved from the higher to lower severity rating categories, with the lowest severity category seeing the largest increase in number. (Note:

Students assessed as Marked or Severe typically receive educational health services in institutional settings. The Prevention and Intervention program is not designed to serve this population.)

Demographic Group Differences

The BCPIP collects various demographic and process data for all of the students in the program. This section compares means for total CAFAS score and changes of the total across some of these variables, noting where there are statistically significant differences between groups (among students with at least two CAFAS administrations).

Mean of Total CAFAS Score by Gender

Group	N	Pre	Post	Change
Female	242	47.64	31.76	-15.69
Male	100	67.40	47.90	-19.50
Difference Significance		**	**	

Significance guide:

** P<.01 (Highly Significant)

* P<.05 (Significant)

There were more than twice as many females as males among those with at least two CAFAS administrations. The mean of the total CAFAS score at pre-test for males was higher than for females, and this difference was statistically significant. This means that, on average, male students entered the program with a higher level of dysfunction than females. Both groups showed an improvement, but the difference remained at post-test. The magnitude of improvement for males and females was statistically equivalent.

Mean of Total CAFAS Score by Ethnicity

Group	N	Pre	Post	Change
White	242	52.31	35.17	-17.00
Non-White	104	56.63	41.55	-15.15
Difference Significance				

Significance guide:

** P<.01 (Highly Significant)

* P<.05 (Significant)

Non-Hispanic white students comprised over two-thirds of the service population. There was no statistical difference between white and non-white students in the level of dysfunction at pre-test, post-test, or in the magnitude of change.

English-speaking students outnumbered students who speak another language by more than seven to one. Students who live in homes where English is not the primary language had a higher CAFAS mean at pre-test and this difference was statistically significant, but these students also experienced a larger improvement and by post-test the means were statistically equivalent for the two groups.

Mean of Total CAFAS Score by Language

Group	N	Pre	Post	Change
English	303	51.95	36.77	-15.07
Other	43	65.35	39.30	-26.05
Difference Significance		*		**

Significance guide:

** P<.01 (Highly Significant)

* P<.05 (Significant)

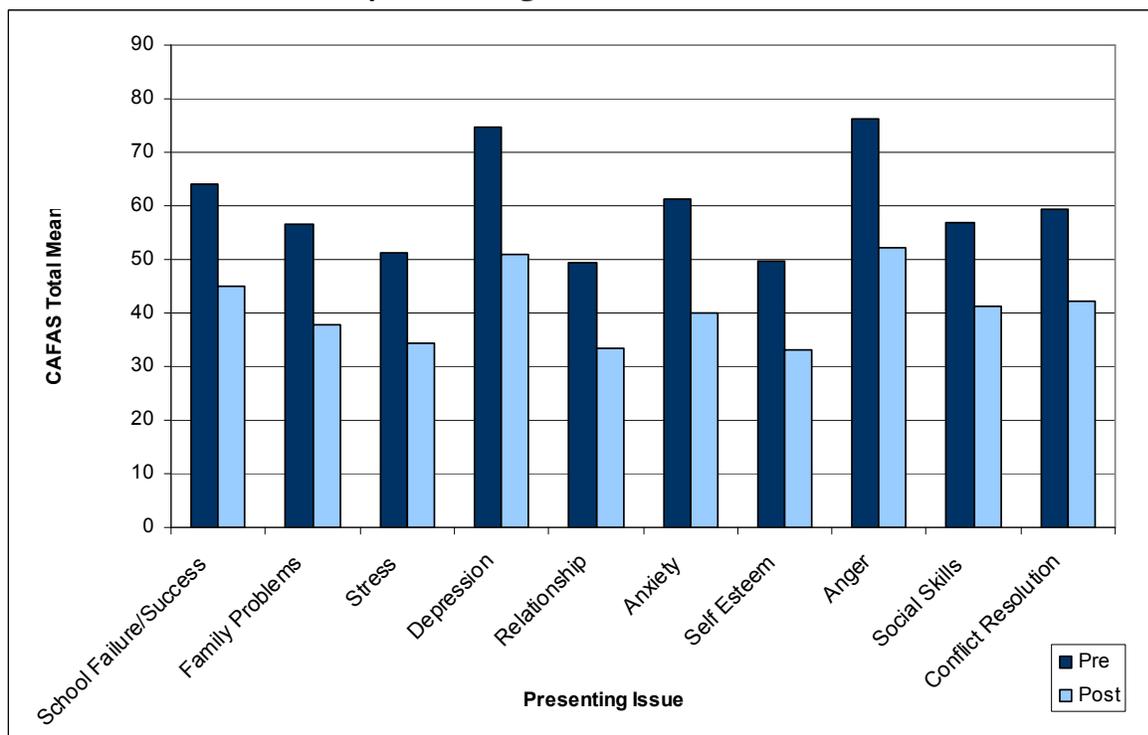
Presenting Issue Differences

This section compares CAFAS outcomes for students facing the ten most frequently occurring presenting issues among the students with at least two CAFAS administrations. Students can have multiple presenting issues, so these categories are not mutually exclusive. However, by comparing the subset of students facing each issue to the overall sample it is possible to identify the issues that correspond to higher than average levels of dysfunction.

Presenting Issue	N	Total Mean Pre	Total Mean Post	Total Mean Change	Total Mean Change %
School Failure/Success	192	64.2	45.0	-18.9	-30%
Family Problems	233	56.7	37.8	-18.7	-33%
Stress	170	51.2	34.2	-17.0	-33%
Depression	150	74.5	50.8	-23.8	-32%
Relationship	106	49.4	33.4	-16.0	-32%
Anxiety	100	61.4	40.0	-21.4	-35%
Self Esteem	102	49.7	33.1	-16.6	-33%
Anger	86	76.3	52.2	-23.4	-32%
Social Skills	83	56.9	41.1	-14.9	-28%
Conflict Resolution	80	59.5	42.3	-17.0	-29%
Overall Sample	343	53.5	37.1	-16.4	-31%

The 86 students with “Anger” as a presenting issue had the highest level of dysfunction at pre-test, with a CAFAS total score mean of 76.3. This higher level of dysfunction persisted at post-test. The 150 students with “Depression” as an issue had the second highest level of dysfunction at both pre- and post-test. The 106 students with “Relationship” and the 102 students with “Self Esteem” as presenting issues had the lowest level of dysfunction at pre- and post-test. The issue groups showed similar percentage improvements on the total score mean. The chart below illustrates these data.

CAFAS Score Differences by Presenting Issue



Presenting Issue Grouping

Correlation is a measure of the statistical strength of the relationship between different variables. Correlation values are expressed with a correlation coefficient, which can range from -1, meaning a perfect negative relationship, to +1, meaning a perfect positive relationship. A correlation of zero (0) indicates there is no statistical relationship between the variables.

An analysis of correlation was done to examine the relationship of the ten most frequently occurring presenting issues for all 2,143 BCPIP students. The table below summarizes the findings, listing the number of other top issues with which each issue shows a statistically significant correlation, and also lists the most highly correlated issue for each along with its correlation coefficient.

Issue	Correlated Issue Count	Most Correlated Issue	Correlation Coefficient
School Failure/Success	9	Anxiety	0.744
Family Problems	9	Stress	0.664
Stress	9	Family Problems	0.664
Depression	9	Anger	0.786
Relationship	8	Self Esteem	0.471
Anxiety	7	Anger	0.823
Self Esteem	9	Anger	0.760
Anger	9	Anxiety	0.823
Social Skills	9	Anger	0.523
Conflict Resolution	8	Anger	0.581

Out of the ten most frequently occurring presenting issues, “Anger” and “Anxiety” show the highest correlation, with a coefficient of 0.823. “Anger” was the highest correlated issue of five other issues, making it the most commonly correlated issue.

The high correlations between these issues mean that students frequently experience these issue pairs together. It does not mean that one issue in a pair causes the other, though that is possible. It is also possible that both issues are caused by some other external factors. In assessing and working with students, understanding the statistical propensity of these issues to co-occur might prove useful information for Prevention/Interventionists.

The table on the following page shows a detailed description of the correlations between the five most frequently occurring presenting issues.

Correlation of Five Most Frequently Occurring Presenting Issues

<i>Issue</i>	<i>Statistic</i>	School Failure / Success	Family Problems	Stress	Depression	Relationship
School Failure / Success	<i>Correlation</i>	1.00	.584**	.433**	.618**	.241**
	N	1168	711	550	436	264
Family Problems	<i>Correlation</i>	.584**	1.000	.664**	.581**	.344**
	N	711	1163	550	443	280
Stress	<i>Correlation</i>	.433**	.664**	1.000	.379**	.467**
	N	550	550	902	299	244
Depression	<i>Correlation</i>	.618**	.581**	.379**	1.000	.353**
	N	436	443	299	674	173
Relationship	<i>Correlation</i>	.241**	.344**	.467**	.353**	1.000
	N	264	280	244	173	476

The above table shows two statistics for each relationship between the five most frequently occurring presenting issues. The first statistic is the correlation coefficient, which can range from -1 to +1 (an issue's correlation with itself is always +1, by definition). The correlations between all five issues are statistically significant at the $P < .01$ level. Stress and Family Problems are the most highly correlated presenting issues among the five most prevalent, with a coefficient of 0.664.

The second statistic for each pair is the number (N) of students who had both presenting issues. The most frequently co-occurring issues were School Failure/Success and Family Problems. This combination of issues was faced by 711 students.

Summary of Findings

The 2012-2013 school year was the tenth in which BCPIP implemented a systematic process for the collection of outcome data, and it was the sixth year in which the system allowed for detailed analysis of process data in relation to outcome data.

As was the case in all nine previous years, this year's results suggest that the program was effective in decreasing dysfunction for 43.7% of the youth served, and stabilizing an additional 49.3% of students, amounting to a total of 93% of youth served showing no increase in their levels of dysfunction. This is noteworthy because, given the multiple challenges that these students face, levels of dysfunction may have continued to increase without intervention. In the aggregate, seven of the eight CAFAS domains showed statistically significant decreases, with the largest absolute changes being shown for the Moods/Emotions (-4.80). The biggest percentage change (-51%) occurred on the Self-Harmful Behavior dimension. The mean of the Total CAFAS score also showed a statistically significant improvement, decreasing 31% from pre-test to post-test. These findings are promising and can be helpful for guiding program strategic planning, staff development, and service provision. Highlights include:

- The preponderance of presenting problems fell into three categories: school issues, family problems, and stress management. Also prevalent were issues with depression, relationships, anxiety, self-esteem and anger. In response, a variety of direct services were provided, including assessment, treatment, consultation services, and group sessions. These services were supplemented with outside agency referrals.
- CAFAS pre-test data demonstrate that the service population is comprised primarily of youth in the Mild (34%) and Moderate (29%) categories of dysfunction. This is appropriate for a public school-based program. Students whose behavior falls in the Severe impairment category are more appropriate for residential/institutional settings. At post-test, there was a shift to the lower dysfunction categories, with a notable increase in the None/Minimal category (from 16% to 32%).
- Among the 343 students with two or more CAFAS scores, 43.7% demonstrated an improvement (a decrease in total score) from pre-test to post-test and an additional 49.3% stayed about the same (stabilized) on the total score. Overall, 93% of the students saw either an improvement or stayed the same on the total CAFAS score. Only 6.5% of the students experienced an increase on the total score. This low percentage is particularly notable because it occurred despite the phenomenon whereby students often become more forthcoming with their counselors over time, which can contribute to increases in scores from pre-test to post-test.
- The majority of students who were administered the CAFAS were non-Hispanic Caucasian (71%), followed by Latino/Hispanic (20%). This is comparable to state Department of Education October 2012 enrollment data for the BVSD and SVVSD districts, where the population is 68% Caucasian and 23% Latino. The CAFAS was administered to – and the

program served – more female than male students (71% compared to 29%). Males and females both showed statistically significant changes on all CAFAS dimensions. However, males showed a statistically significant higher level of dysfunction at pre-test and this difference persisted at post-test. English-speaking students (88% of the sample) had a lower level of dysfunction at pre-test than their non-English speaking peers, however they experienced a larger improvement and by post-test the group means were statistically equivalent.

- Students facing anger issues had the highest level of dysfunction at both pre-test and post-test. Students facing self-esteem and relationship problems had the lowest levels of dysfunction at both pre-test and post-test.
- Of the five most frequently occurring presenting issues, all were significantly correlated with the other top issues. The two most highly correlated presenting issues were family problems and stress. The most frequently co-occurring issues were family problems and school failure.

Appendix A

Boulder County Public Health Prevention and Intervention Program Logic Model

