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Research Article

Integrating Positive Behavior Intervention Support and Embedded Mental Health Personnel in an Urban School District

Steven M. Baule[1], Heidi Monroe[2], and Kathy A. Baule[3]

[1]School of Advanced Studies, University of Phoenix, USA
[2]Meridian Health Services, USA
[3]Indiana University Health System/Ball Memorial Hospital, USA

*Corresponding author
Steve M. Baule, School of Advanced Studies, University of Phoenix, USA, Tel: 815-520-4851; Email: smbaule@gmail.com

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Abstract

The Council for Children with Behavioral Disorders (CCBD) proposed that the Positive Behavior Intervention Supports (PBIS) should be integrating into school mental health services to be the most impactful. PBIS provides a positive aspirational approach to student discipline instead of taking a more penal-based approach. This paper reviews the implementation of PBIS along with the embedding of mental health clinicians within the school setting in a midsized Midwest urban school district in Muncie, Indiana. The two pronged implementation had a significant impact on reducing inappropriate student behavior as measured by the school district. Additionally, the schools involved in the implementation saw a reduction in student suspensions which did lead to increased student achievement and better student attendance.

INTRODUCTION

The need for stronger and more responsive mental health care services in schools is clearly apparent to nearly anyone paying attention to the graphic failings that show up in the news media. The Council for Children with Behavioral Disorders (CCBD) articulated the need for better mental health services for children and young adults in 2012 in the wake of the Sandy Hook school shootings. However, the need for better mental health services is not new. In 1972, a young Geraldo Rivera, reported on the "shocking conditions" at a pediatric mental health facility on Staten Island. The public outrage over that expose ultimately led to the closing of that facility. However, we still don't have a comprehensive and effective network to provide all in need the necessary services [1].

CCBD strongly urged for a better system to identify those in need of mental health services and to better integrate such behavior screening through integration of pediatric mental health services with Positive Behavior Interventions and Supports (PBIS) or similar programming. According to CCBD, PBIS is an excellent choice as it is currently in place in nearly 20% of school districts nationally and has at its primary focus improving academic achievement which aligns with national goals [2,3].

In 2000, the US Surgeon General held a conference on children's mental health to develop a national agenda to improve such services [4]. The conference promulgated eight goals including three which are directly impactful to PK-12 School partnerships with mental health providers:

Goal 3: Improve the assessment of and recognition of mental health needs in children. Includes the need to "promote cost-effective, proactive systems of behavior support at the school level. These systems of behavior support should emphasize universal, primary prevention methods that recognize the unique differences of all children and youth, but should include selective individual student supports for those who have more intense and long-term needs."

Goal 4:Eliminate racial/ethnic and socioeconomic disparities in access to mental healthcare services includes "Strengthen the resource capacity of schools to serve as a key link to a comprehensive, seamless system of school- and community-based identification, assessment and treatment services to meet the needs of youth and their families where they are."

Goal 6: Increase access to and coordination of quality mental healthcare services includes "provide access to services in places where youth and families congregate (e.g., schools, recreation centers, churches, and others)."

Several sources cite that approximately 20% or more of school-aged children have mental health needs that require support and that more than half of all psychiatric illnesses present themselves prior to the patient reaching age 14 [3,5-7]. According to Anderson and Cardoza [5], there are simply not

enough people in place to address the needs of children. Looking to outside partnerships has become a common step for many school districts in order to more effectively meet the needs of the children entrusted to their care. The school district worked to develop a number of partnerships since 2015 to more effectively and efficiently support the children they serve.

The community mental health partner is a progressive healthcare organization that believes in treating the "whole person" integrating physical, mental, and social well-being to help people achieve their optimum health. This approach connects treatments and doctors working together to heal both, the body and mind for total well-being. The partner's statement concerning embedding clinicians states the organization will provide a staffing model to address on-going behavioral health needs for clients to help promote a more successful integration into the school day/year and beyond [8].

The CCBD identified that one way to strengthen mental health services with children was to integrate school mental health services with the PBIS program. Delisfort [9] showed a reduction in discipline when embedding mental health providers in a school. This is effectively what the school district did as part of its strategic plan development in the spring of 2016.

In the spring of 2016, as part of the school district's strategic planning development, it was determined that a more robust approach to supporting students was necessary. Ultimately, two of the goals in the Student Services, Support, and Safety section of the plan addressed these needs:

Goal 2: The School district will provide high quality supportive services to inspire and shape students to excel and have the skills necessary to exit high school successfully; Objective 2: Provide avenues for students and families to access health and support services to promote optimal development and readiness to learn

Goal 3: The School district will enhance learning opportunities for all students by cultivating a collaborative, supportive and welcoming district culture Objective 1: Strengthen community connections and utilize the partnerships to provide in school services to students and families and Objective 2: Each school will provide a positive environment for students and families; celebrating diversity, recognizing success, and promoting healthy and positive social skills

Goal 1 addressed physical safety and security improvements to school buildings and Objective 1 of Goal 2 addressed developing alternative learning programs for students not being successful in traditional environments [10].

Some earlier studies did show a marked decrease in investing in PBIS's proactive discipline approach. Netzel and Eber [11] reported a 22% reduction in elementary suspension rates in an Illinois district after the implementation of PBIS. Muscott, Mann, and LeBrun [12] reported a decrease in suspensions in most types of schools, but not in all schools in their study of New Hampshire Schools using PBIS. They only included two high schools in their study and the results were a 14% reduction to a 97% reduction in suspensions.

A program with similar objectives to PBIS is Character Counts! Its website [13] includes reference to a study conducted in the Downey Unified School District in California, that saw a historic reduction in suspensions, but no details are available from the website. A review of journals via the University of Phoenix Library search engines found no academic studies addressing Character Counts and student discipline issues in the past decade.

The school district believed that implementing PBIS and embedding mental health workers within schools would assist in reducing student discipline issues and help meet the outlined strategic plan goals and objectives listed above. The research question was did the implementation of PBIS and embedded mental health workers in schools have an impact on the rate of student suspensions.

H_0: There was no statistically significant difference in the suspension rate of students in School Year 2014 and School Year 2017.

H_1: There was a statistically significant difference in the suspension rate of students in School Year 2014 and School Year 2017.

METHODS

The study was conducted in an urban school district in Indiana. The municipality had an estimated population of 70,085 in 2018. Eighty-three percent of the population was white with 10% African-American [14]. The county is ranked on overall health outcomes as 85th out of Indiana's 92 counties. In quality of life, the county is ranked 88th out of 92 counties. This includes the measure that on average, the county has 4.5 "poor mental health days" out of the last 30 days. This is about the Indiana average of 4.3 days. Fourteen percent of residents experience "frequent mental distress" compared to 13% across Indiana on the whole and only 10% for top performing US counties [15].

The enrollment within the district has been declining for more than a decade as industry has moved out of the rust belt. While enrollment has declined, the number of children of poverty has increased to 77.9% over the past several years. Sixty percent of students are white while 39.5% are minority. The largest minority group is black students who account for 21.1% of the total population. For annual demographic and socio-economic changes experienced by the school district see Table (1).

According to the Indiana Youth Institute [16], in 2016, 51.8% of Delaware County births were to unmarried parents. That was down slightly from 2013 when 53% of births were to unmarried parents. No specific data as to the number of single parent households in the district is available, but the Indiana Early Learning Advisory Committee [17] identifies that approximately 47% of the children ages 0-5 in the county are living in a single family household. Overall, about half of school district students are living in single parent households.

During the study, the district operated 14 schools including a high school, two middle schools, nine elementary schools and two specialty schools. Historically, the school district had not provided any mental health training to its nursing staff until the fall of 2016 when Youth Mental Health First Aid Training was offered to selected staff members through grant funding from the Indiana National Alliance on Mental Health. The school district has provided on site medical and dental clinics in partnership

Table 1: School district demographics.

	School Year 2014	School Year 2015	School Year 2016	School Year 2017	School Year 2018
Percent of students receiving free or reduced lunch	75.5%	75.8%	75.1%	74.6%	77.9%
Percent of non-white students	34.4%	35.4%	36.7%	37.4%	39.5%

Table 2: Number of critical discipline incidents by school year.

	School Year 2014	School Year 2015	School Year 2016	School Year 2017
Student Population	6568	6106	5883	5690
Total Critical Incidents	1162	1169	969	786
CPS Complaints	937	1010	517	589
Probation Referrals	133	201	118	115
Custodial Arrests	93	59	62	66

Abbreviations: CPS: Child Protective Services

with a community health organization for more than five years. On average, approximately 1000 students were seen by embedded mental health staff in a given month. The community is served by a single comprehensive community hospital which saw an increase of over 38% in pediatric psychiatric admissions through the emergency department during the course of the study.

To meet the goals and objectives outlined, the district continued to implement its district-wide PBIS and then reached out to the mental health organization to determine how to better integrate mental health support for students and their families. The new partnership placed some of the mental health organization's behavior clinicians titled "behavior family navigators" full time into the schools. The first placements were made of four staff members serving three elementary schools and two secondary schools in August 2016. Each elementary school had a full time school counselor except for the two smallest schools, which shared due to a lack of qualified candidates. Secondary schools each had multiple full time school counselors. These partnership positions were not in place of school counselors but were in addition to the school staff. Each school had a full time school nurse. Further supplemental clinicians were added in December 2016 as the program expanded and additional expansion occurred in August 2017. The mental health organization also provided grant funding to pay for a PBSI coordinator for the school district in order to ensure support during implementation beginning in December 2016.

Historically, the school district tracked serious discipline issues or "critical discipline incidents" by building, gender, ethnicity, and within 26 specific categories from accident to weapon violations. The reporting criteria were not modified during the length of the study, so accurate comparisons can be made from the data. The critical incident data from 2014-2015 was used as a benchmark prior to the implementation of PBIS in any of the district schools. In 2015-2016, the district began a systemic implementation of PBIS. In 2016-2017, the schools partnered with the community health organization to embed mental health workers within the school district.

Staff from both organizations held regular meetings, initially monthly, in order to ensure coordination between the school staff and the mental health staff. It took approximately three months to work out a number of logistical and reporting issues between the two organizations. Regular meetings were held at the staff level, for building leadership and for executive leadership to ensure ongoing regular communications.

Since the number of students decreased each year while the diversity and level of poverty generally increased, the measure determined to be the most effective way to measure the impact was on the suspension rate per student. The research question as identified in the introduction was did the implementation of PBIS and embedded mental health workers in schools have an impact on the rate of student suspensions.

H_0: There was no statistically significant difference in the suspension rate of students in School Year 2014 and School Year 2017.

H_1: There was a statistically significant difference in the suspension rate of students in School Year 2014 and School Year 2017.

RESULTS

The school district saw a significant reduction in critical discipline incidents from the 2014-2015 school year through the 2016-2017 school year (Table 2). Critical discipline incidents were measured by four criteria; the total number of incidents, the number of incidents that required staff to make a report to Child Protective Services (CPS), the number of incidents which resulted in a referral(s) to juvenile probation, and the number of custodial arrests made.

Of the 26 critical incident categories, five categories; bullying, defiance/disorderly conduct, homicidal or suicidal ideation, suicide threats, and threatening or verbally aggressive behavior were considered as linked to mental health issues. Unfortunately, there had been no clearly defined guidelines as to what was to be reported under each category. In order to provide more comparable data, the five categories were combined into three. The categories regarding homicide and suicide were combined. Additionally, bullying and threatening or verbally aggressive behavior were combined due to similarities in the scope of each category (Table 3).

In January 2015, the middle school on the south side of town was deemed to be in such crisis that a wholesale leadership change was made. The new leadership team was extremely supportive of implementing PBIS and was the first secondary school to receive the embedded staffing. Overall from 2015 through the spring of 2017, the number of critical discipline incidents were reduced by 67%; while mental health related critical discipline incidents were reduced by 62% (Table 4).

The behavioral health staff worked with their existing clients in the school setting and with children who did not already have an existing client relationship. Although individual records were not retained, approximately ten percent of the students seen did not have an existing relationship with the behavioral health organization. The vast majority of the students treated by the embedded mental health professionals would have still received treatment, but not in the same context. One of the issues identified by a school nurse was the ability to immediately contact the embedded behavioral staff when a student who is already involved in counseling is having a "crisis" as determined by the school nurse or administrator onsite.

The number of new clients working with the embedded behavioral staff do not account for the large reductions in suspensions and critical incidents. It seems more likely that the reductions are the result of two factors, the availability of embedded staff to work with crisis issues but potentially more importantly, the mental health services may have been more effective by being provided in school environment.

The school district saw a reduction of suspensions in both, total number and the percentage of the student body that experienced suspension. The number of students who were suspended at least once was reduced from 1230in the 2014 School Year to 843 in the 2017 School Year. This was a reduction from 18.62% of the total student body to 14.92% of the student body a reduction of 23%. High school suspensions were reduced to 34% of the pre-intervention level. Middle school suspensions were reduced to 67% of the pre-intervention level (Table 5). Harper [18] found a reduction in suspensions led to better attendance and test scores. The school district experienced similar results (Table 6).

The number of suspensions per student was reviewed to determine if the null hypothesis should be accepted. In total the records of over 24,040 annual discipline records were reviewed. The least amount of suspensions any student experienced was zero. The most received was a single student who was suspended 30 times in 2016. The number of students suspended dropped from 1,229 individuals in 2014 to 842 in 2017. Among those students who were suspended, on average, they were suspended 3.7 times per year (Table 7). A p=value of less than 0.05 was required for significance. When the individual suspension data was analyzed using ANOVA, the resulting p value was p=1.6205E-12. Since the p value was < 0.05, the next step was to conduct a Tukey HSD which showed p = 0.002 between the School Year 2014 and School Year 2017 data sets. This allowed the null hypothesis H_0 to be discarded. This study showed that the impact of implementing PBIS and embedded mental health workers in a school setting had a positive impact on the students served. Those impacted were not necessarily suspended less often, but not at all. As the average number of suspensions among students suspended remained constant (Table 7), the impact was simply to allow students to remove themselves from the negative discipline consequences completely.

Table 3: Mental health related critical incidents by category and school year.

	School Year 2014	School Year 2015	School Year 2016	School Year 2017	Percentage Reduction 2014 to 2017
Defiance/disorderly conduct	158	75	121	43	72.78%
Homicidal or suicidal ideation or threats	73	57	79	47	35.61%
Bullying & Threatening or verbally aggressive behavior	153	232	53	25	83.66%
Total Mental Health Incidents	384	364	253	115	70.05%

Table 4: Southern middle school mental health related critical incidents by category and semester.

	Spring Semester 2015	Fall Semester 2015	Spring Semester 2016	Fall Semester 2016	Spring Semester 2017	Percent Reduction from Spring 2015 to Spring 2017
Defiance/disorderly conduct	10	16	19	8	12	-20%
Homicidal or suicidal ideation or threats	22	16	5	2	3	86.37%
Bullying & Threatening or verbally aggressive behavior	29	7	7	2	8	72.41%
Total Mental Health Incidents	61	39	31	12	23	62.29%
Total Incidents	231	148	126	100	76	67.09%

Table 5: Suspensions and expulsions by school year.

	School Year 2014	School Year 2015	School Year 2016	School Year 2017
Total student population	6568	6106	5883	5690
Unique students suspended	1227	1126	979	843
Percentage of students suspended	18.68%	18.44%	16.64%	14.8%

Table 6: Suspensions by reporting category.

	School Year 2014	School Year 2015	School Year 2016	School Year 2017
Intimidation	91	71	84	0
Verbal aggression or profanity	392	522	379	440
Defiance	1394	1700	1171	841
Total	1877	2293	1634	1281

Table 7: Suspensions per student.

School Year	Total Number of Suspensions	Total Number of Individual Students Suspended	Average Number of Times Suspended	Highest Number of Suspensions for a Student
2014	4543	1229	3.699	26
2015	5032	1126	4.47	24
2016	3769	982	3.85	30
2017	3143	842	3.72	22
Percentage Reduction	30.81%	31.48%		

CONCLUSION

Overall, the implementation of PBIS and the embedding of behavior clinicians within the school district appears to have had an extremely positive impact on reducing the number and nature of discipline incidents across the board. One key was the buy in of the building leadership teams in order to ensure PBIS was implemented with fidelity and that the embedded mental health workers were included in school level discussions. This allowed the embedded mental health workers to be more proactive and effective. This would provide support for the CCBD's proposal to integrate PBIS with school mental health services. Another key to success was the effective communication between all agencies involved. Having regular meetings at the staff level, the building level, and the executive levels encouraged effective communication and continued to the success the program. Both, building level administrative buy-in and effective communications were mentioned as essential to the success of the Netzel and Eber [11] study as well.

The access to mental health workers for students during the school day provided additional support to assist students in maintaining control over their behavior. Over 85% of the children meeting with embedded staff were already patients, the ability to meet in the school setting and during the school day appears to be a defining factor. This allows for better integration between the school's PBIS programming and the mental health services. Schools and community mental health organizations should seriously considering partnering to serve students in the context of their school environment.

LIMITATIONS

Due to the lack of control and experimental groups in the study, it isn't possible to identify a causal link between the implementation of PBIS and/or the embedding of mental health professionals into the school system, but there definitely was a positive decline in discipline issues and suspensions that correlated to the implementation of those two programs. The school district did make some building level and district level leadership changes that could have impacted the overall culture of the district. Additionally, the school district has a particularly high level of poverty, the study should be replicated in districts with lower levels of poverty. The area has a narrow demographic with a much higher than average white population and an extremely low Hispanic population. There was not a strong articulation agreement in place with the primary community hospital during this study, so it isn't possible to determine if there was a reduction in the number of student admissions from the district as a result of the implementation of the new programs. The hospital serves more than a dozen school districts and did see a nearly 38% increase in mental health related pediatric admissions among school-aged children.

RECOMMENDATIONS

As multiple organizations have identified the need for additional effective mental health services to be embedded within public school systems in order to provide services at the point of need. Educational leaders should embrace partnerships with local mental health providers. In many cases, both groups are already working with the same children. Such a partnership allows for a more coordinated approach to providing services. From a mental health standpoint, it allows for services to be provided in a school-based context where some students struggle. A next step is to more effectively triangulate care between the

mental health provider, the school district, and the local hospital to more effectively provide a comprehensive continuum of care for children and their families. The study should be replicated in areas with a more mixed demographic population as well. Overall, collaboration between local schools and the mental health providers who serve the same children seems to improve the effectiveness of interventions made by both organizations.

CONFLICT OF INTEREST

The authors work for the school district and mental health organization featured in the study.

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