Using EMIS and Ohio Scales Data to Document the Need, Scope, and Impact of School-Based Mental Health Services (SBMHS)

Purpose. The purpose of this concept paper is to illustrate core strategies for utilizing Education Management Information System (EMIS) and Ohio Scales data to document the need, scope, and impact of school-based mental health services (SBMHS).

Audience. There are two general audiences that may benefit from this concept paper. One audience is composed primarily of school administrators and educators, the other audience is comprised of community planners (e.g., child-serving system administrators and planners, human service planning personnel), FCFC members, school community mental health administrators, clinical directors, and supervisors.

Background. Evaluation of SBMHS is important for the following reasons: 1) the significant and unmet client need for mental health services, 2) the historically ineffective responses in meeting the mental health needs of children through traditional education and mental health service delivery systems, 3) the inordinate impact that a small group of children with severe emotional and behavioral disturbances can have upon the learning environment, and 4) greater accountability mandates directing public systems to collaboratively address and measure indicators of school success and child well-being.

In busy school and agency work environments, the use of already existing information should be maximized for multiple strategic purposes. Schools and public mental health providers are each required to collect certain information regarding the children they serve. Schools are required to report information on 59 student variables through the Education Management Information System (EMIS). Embedded within these variables are 17 categories of discipline referral reasons that can be used to easily identify a subset of high-risk youth who may be able to benefit from indicated and targeted mental health services. Community mental health providers delivering Medicaid funded school-based mental health services are required to collect mental health assessment and rating information using the Ohio Problem, Functioning, Hopefulness, and Satisfaction Scales (i.e., Ohio Scales) (Ogles, Melendez, Davis, & Lunnen. 2000). The Ohio Scales are designed to assess clinical outcomes in children receiving mental health services, including changes in levels of behavioral problems and functioning, as well as their feelings of hopefulness, satisfaction with services and the restrictiveness of their living environment. Together, these two naturally occurring sources of information can be used to identify, assess, and track behavioral outcomes for high-risk high-need youth enrolled in schools.

Data.

Education Management Information System (EMIS). The Ohio Statewide System of School Improvement Support helps districts design and implement school improvement processes including comprehensive continuous school improvement plans (CCIP). Regional School Improvement Teams (RSIT) aid schools with these improvement efforts using various consultation strategies and improvement tools. One such tool, the Interactive Local Report Card (ILRC), has summary information regarding school performance that comes from the Ohio Department of Education's computerized database, the Education Management Information System (EMIS).

A helpful strategy for evaluating SBMHS is to maximize the use of already existing EMIS data, specifically student discipline data. Incidents requiring a discipline action are entered into EMIS according to categories of discipline referral reasons, and types of discipline dispositions by order of severity. There are seventeen discipline reason elements: 01) truancy,

03) fighting/violence, 04) vandalism/damage to school or personal property, 05) theft/stealing personal or school property, 06) use, possession, sale or distribution of a firearm, 07) use, possession, sale or distribution of a weapon other than a firearm or explosive, incendiary or poison gas, 08) use, possession, sale or distribution of any explosive, incendiary or poison gas, 09) use, possession, sale or distribution of tobacco products, 10) use, possession, sale or distribution of intoxicating alcoholic beverages, 11) use, possession, sale or distribution of drugs other than tobacco or alcohol, 14) false alarms/bomb threat, 18) disobedient/disruptive behavior, 19) harassment/intimidation, 20) firearm look-a-likes, 21) unwelcome sexual conduct, and 22) serious bodily injury. There are seven types of discipline dispositions: 1) expulsion, 2) out-of-school suspension, 3) in-school suspension, 4) in-school alternate discipline class/program/building, 6) emergency referral by district personnel, and 7) removal by a hearing officer. Schools are required to record the date and building where the incident took place. The Ohio Department of Education's website (www.ode.state.oh.us) offers tools to help utilize EMIS data, which can be found on the website under "data and statistics."

Ohio Scales. The *Ohio Youth Problem, Functioning and Satisfaction Scales (Ohio Scales) – Short Form* (Ogles, Melendez, Davis, & Lunnen, 2000) utilize three parallel multiple rater perspectives -- the youth's parent or primary caretaker, the youth, and the youth's agency worker -- to assess mental health outcomes. The parent and agency worker forms are designed for children ages 5-18, and the youth form is designed for children ages 12-18. All three raters, parent, youth and agency worker, evaluate the problem severity and functioning scales (20 items each). The problem severity scale can be further divided into an externalizing behaviors component consisting of 11 items, and an internalizing behaviors component, consisting of 9 items (Ogles, Lunnen, Gillespie & Trout, 1996). Youth and parent rate satisfaction and hopefulness (4 items each) and the agency worker completes the Restrictiveness of Living Environments Scale, or ROLES (Hawkins, Almeida, Faby, & Reitz, 1992). Agency workers also are asked to indicate the number of times in the past 90 days that youth were arrested, suspended from school, missed school, spent days in detention, or engaged in self-injurious behaviors.

More information on the Ohio Scales can be found on the Ohio Department of Mental Health's outcomes website (www.mh.state.oh.us/oper/outcomes/outcomes.index.html). Manuals and reports on using the data can be found there. Below is a summary table (Table 1) that illustrates the different scales and to whom they are administered.

Table 1. Ohio Scales – Summary Table

Scale Description	Version	# Items	Scale	Valid Scores	Remarks
Problem-Severity	Parent	20	0 - 5	0 - 100	Higher scores indicate more severe problems
	Youth				
	Agency Worker				
Functioning	Parent	20	0 - 4	0 - 80	Higher scores indicate higher Functioning
	Youth				
	Agency Worker				
Satisfaction	Parent	4	1 – 6	4 - 24	Higher scores indicate less Satisfaction
	Youth				
Hopefulness	Parent	4	1 – 6	4 – 24	Higher scores indicate less Hopefulness
	Youth				
ROLES (Restrictiveness of Living Environments Scale)	Agency Worker	23	Items must add up to 90	0.5 - 10.0	"Weighted Setting" for the place(s) of living for the previous 90 days
					Higher scores indicate more restrictive environments
Measures Of Arrest & School Attendance					
Arrests	Agency Worker	1	# in the past 90 days	≥ 0	Lower values indicate better outcomes
Suspensions From School	Agency Worker	1	# in the past 90 days	≥ 0	Lower values indicate better outcomes
Days In Detention	Agency Worker	1	# in the past 90 days	≥ 0	Lower values indicate better outcomes
Days School Missed	Agency Worker	1	# in the past 90 days	≥ 0	Lower values indicate better outcomes
Self-Harm Attempts	Agency Worker	1	# in the past 90 days	≥ 0	Lower values indicate better outcomes

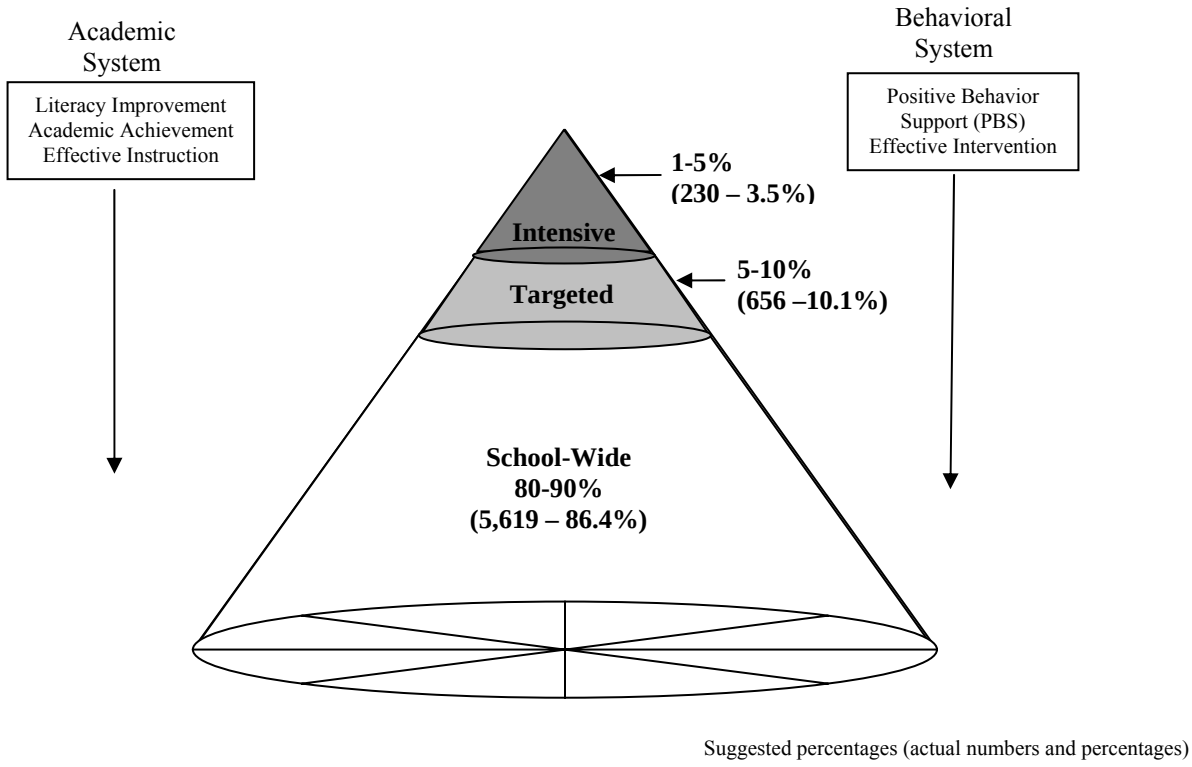
EMIS Data Example. EMIS data can be used to illustrate how a small, identifiable portion of youth are responsible for the majority of all formal discipline activity in a school district. Specifically, discipline referral data can be used to estimate service needs and identify the subset of youth who may benefit from services. Depending on the intervention options and availability of resources, those youth with at least one discipline referral may be appropriately considered for targeted levels of intervention, and those youth accounting for 50% or more of all formal discipline events may be eligible for more intensive interventions due to their high levels of behavioral difficulties.

While schools engage in a large range of activities to prevent and manage problem behaviors, including extensive use of suspension, many schools fail to use a full range of available responses including mental health treatment referrals (Gottfredson & Gottfredson, 2001). While all of these youth may not require mental health intervention, the use of EMIS discipline referral data can significantly aid in identifying and quantifying the number of youth most likely to be in need of mental health service evaluation. This algorithm can help in estimating mental health service capacity need based upon the Ohio Integrated Systems Model (OISM) model. OISM is a comprehensive, school-wide prevention and intervention model that addresses both academic and behavior needs of all children, through literacy improvement and positive behavior support (PBS). PBS focuses on providing support that corresponds with the level of prevention or intervention that is needed (Positive Behavioral Interventions and Supports, n.d.). For example, school-wide support, which aims to reduce new problem behavior, differs from targeted support, which aims to reduce current problem behavior, and intensive or individual support, which aims to reduce the most severe cases. Schools can use EMIS data to develop a plan for these behavioral interventions, as there are currently no guidelines from the Ohio Department of Education (ODE) on how to determine nonacademic needs (Achieve, Inc., 2007).

Using EMIS data, all youth with one or more suspensions could be considered for targeted interventions, while those with 50% or more of the suspensions could be considered for intensive interventions. In an inner-ring school district sample, youth who have 1 suspension fall into the targeted category, youth with 2 suspensions fall into either the targeted or the intensive category depending on grade level, and those with 3 or more suspensions fall into the intensive category. While not all youth with behavior problems have academic problems, academic and behavioral needs often interconnect, as research has shown that the students with disciplinary problems also tend to struggle academically (Ohio Department of Education, 2006). This is also true in this sample as the odds of having a failing GPA (1.0 or less) are 2.55 times higher for those with 2 suspensions and the odds of having a failing GPA are 3.24 times higher for those with 3 or more suspensions as compared to those with only 1 suspension. The mean GPA is also lower for those with 2 suspensions and even lower for those with 3 or more suspensions than for those with only one suspension.

Figure 1 illustrates how EMIS discipline referral data can be used to estimate numbers of youth across a school district (N = 6,505) who should be considered for universal (n = 5,619 or 86.4%), targeted (n = 656 or 10.1%), or intensive (n = 230 or 3.5%) levels of mental health services, based on EMIS discipline data. The base of the OISM cone represents universal interventions that include the districts core academic and behavior curricula for 80-90% of district children. The targeted tier in middle of the cone represents students at some risk for school failure, usually 5-10%, requiring more specific interventions. The top of the cone represents the remaining 5% of students at high risk for failure. In this context, a menu of school-based mental health services can provide a core part of the behavioral curricula including targeted and intensive need youth.

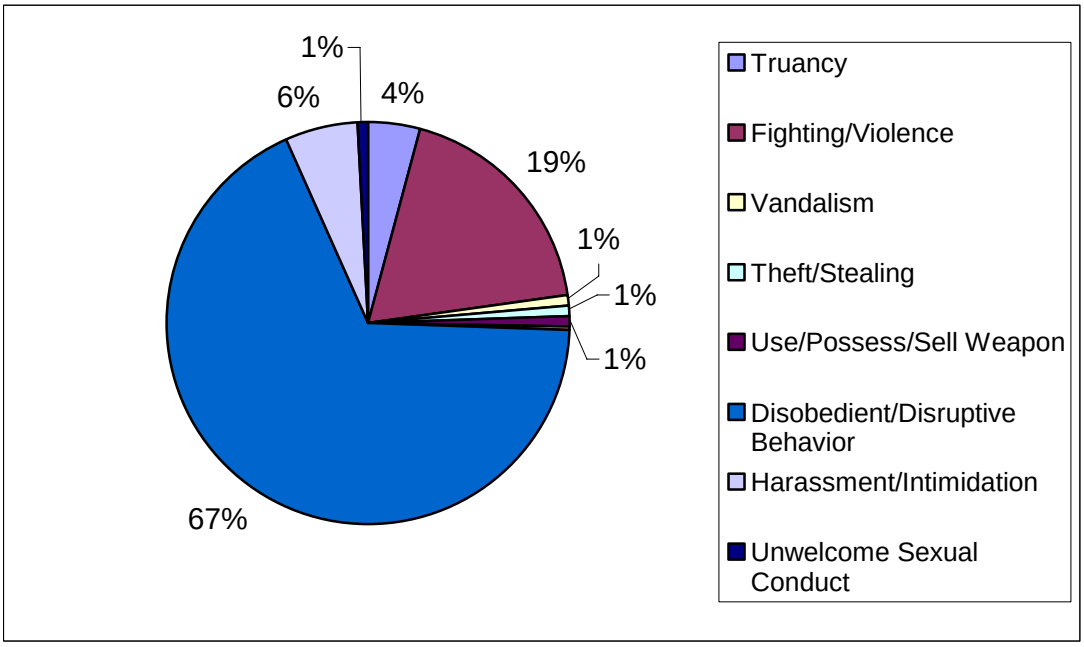
Figure 1. OISM Tiered Model



Suggested percentages (actual numbers and percentages)

The frequency and nature of problem behaviors can also be identified by using EMIS discipline data. It is often useful to compare incidents across buildings or grade categories and across time to detect seasonal variations. It also is possible to subselect from the 17 discipline referral categories to identify and track specific problem behaviors targeted by a prevention or intervention program (e.g., alcohol use). Figure 2 illustrates the distribution of middle school discipline event categories noting the preponderance of disobedient/disruptive behavior (67%) and fighting (19%). Corresponding school-based mental health interventions that address externalizing behaviors for sixth to eight graders would be appropriate service matches.

Figure 2. Grades 6-8 2005-06 Suspensions – Total codes

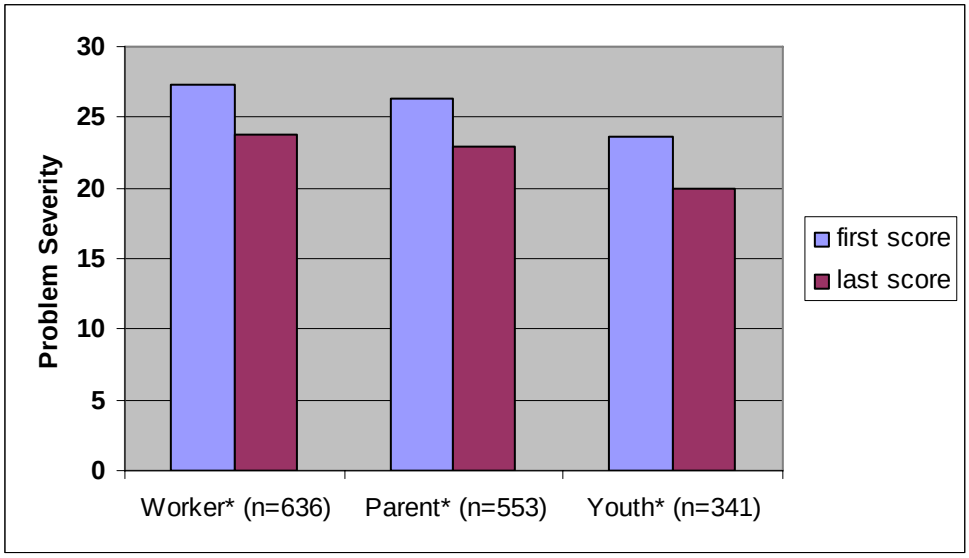


It is important to note that there is software that will help schools perform these tasks. One example, the School-Wide Information System (SWIS), is a web-based database for helping schools collect, manage, and analyze office referral data to help inform decision-making (School-Wide Information System, n.d.). For more information visit the SWIS website (www.swis.org).

Ohio Scales Data Example. The next example reports Ohio Scales assessment and outcome data from a school-based mental health initiative provided by a private agency. A variety of analyses using Ohio Scale data can be used to evaluate and report on SBMHS delivered by a community agency. The Problem Severity Scale offers one example of outcome reporting. Bar graphs provide an easy visual representation of outcome findings.

The Problem Severity scale has a possible range of 0 to 100. A score of 0-9 indicates no severity; a score of 10-19 indicates mild severity; a score of 20-36 indicates moderate severity; a score of 37-52 is considered severe; and a score of 53 or greater is considered extreme (Ogles & Healy, 2003; Tam, 2006). All three rater groups can be analyzed using paired t-tests with the first and last scores collected (Figure 3). In this analysis, decreases in the mean problem severity scores indicate reductions in psychiatric and behavioral symptomalogy. For the agency worker version, mean problem scores significantly reduced from 27.34 to 23.71. The mean for the parent version significantly reduced from 26.30 to 22.88. Finally, for the youth version the mean significantly reduced from 23.63 to 19.92.

Figure 3. Ohio Scales Problem Severity Scale



Note: * statistically significant

The Functioning, Satisfaction and Hopefulness scales can also be reported on in similar manners. There are also additional ways of looking at the data that can provide even more insight into the effectiveness of services, such as looking at levels of severity. Reliable change can also be calculated for each of the scales. The worker version of the Ohio Scales also contains some additional questions that may be of interest to school personnel. Workers are asked to indicate the number of times in the past 90 days that youth were arrested, suspended from school, missed school, spent days in detention, or engaged in self-injurious behaviors.

The next table (Table 2) provides one more example of how the data can be used to report on the effectiveness of services. The table shows the percentage of parent scores reporting Ohio Scales improvements by level of severity at the first score. This table illustrates that youth who started with more severe problems and the lowest functioning were the ones who were more likely to demonstrate improvements.

Table 2. Change in Ohio Scales First and Last Scores

			n	Improvement	No change	Deterioration
Parent	Problem Severity	None	60	0.0%	81.7%	18.3%
		Mild	145	11.0%	68.3%	20.7%
		Moderate	228	31.1%	56.1%	12.7%
		Severe	77	55.8%	29.9%	14.3%
		Extreme	43	69.8%	25.6%	4.7%
	Functioning	None	41	4.9%	48.8%	46.3%
		Mild	205	17.6%	54.6%	27.8%
		Moderate	201	38.8%	42.8%	18.4%
		Severe	70	54.3%	37.1%	8.6%
		Extreme	31	67.7%	32.3%	0.0%

Conclusion. Both EMIS and Ohio Scales data provide useful information that assist educators, administrators, and community mental health service planners and providers in assessing and evaluating needs and outcomes related to school-based mental health services. The above descriptions and examples illustrate the kinds of questions and analyses that can be investigated with naturally occurring data elements collected by schools and mental health agencies. Such analyses can greatly assist with accountability mandates and strategic planning efforts including those associated with:

- The Ohio Integrated Systems Model (OISM) that provides a comprehensive, school-wide prevention and intervention model that addresses both academic and behavior needs of all children. This is important because academic and behavioral needs often interconnect, as research has shown the students with disciplinary problems also tend to struggle academically (Ohio Department of Education, 2006).
- Positive Behavioral Interventions and Supports (PBIS) that also looks at how behavior supports positively influence youth who fall into different levels of severity as demonstrated in the OISM pyramid, which correspond with three levels of prevention (School-wide, Targeted, and Intensive). EMIS data can also be used to estimate the number and describe the types of school related problems in need of positive behavior support. Ohio Scales data can be used to assess behavior and functioning and track outcomes for youth receiving mental health services from Ohio Department of Mental Health (ODMH) affiliated providers. More information can be found on the PBIS website (http://www.pbis.org).
- The Ohio Statewide System of School Improvement Support that helps districts design and implement school improvement processes including comprehensive continuous school improvement plans (CCIP). Regional School Improvement Teams (RSIT) then help schools with these improvement efforts through consultation utilizing various improvement tools.
- Partnerships for Success (PfS), which is an initiative of the Ohio Family and Children First Cabinet Council intended to mobilize county Family and Children First Councils (FCFC) to reduce youth problem behaviors and improve family and child well-being outcomes. House Bill 289 requires county FCFCs to assess the status of local progress toward increasing child well-being. More information can be found on their website (http://www.pfsacademy.org/index.htm).

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