

# Health Service Integration in Oregon School-Based Health Centers: Meeting the Mental Health Needs of Young People

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## ABSTRACT

*School-based health centers (SBHCs) break down traditional barriers encountered by young people in the healthcare system. Along with physical health services, all of Oregon's SBHCs provide some level of mental health services. As more evidence reveals the connection between mental and physical health, integrated care systems that improve health outcomes for those with mental health concerns become increasingly important. Oregon's SBHCs have varying levels of ability to address physical and mental health service integration, based on community resources and logistical limitations. Using data from an assessment of Oregon's SBHC mental health system, this article offers recommendations for how more integrated services in an SBHC can help fill gaps to better meet young people's mental health needs in Oregon.*

**Key words:** school-based health centers; mental health; health service integration; youth; adolescent; mental health capacity

## Introduction

School-based health centers (SBHCs) support the vision that healthy students are more likely to succeed in the classroom. With SBHC health care services available on school grounds, students can easily access care when they need it and, in turn, may miss fewer classes and perform better in school (Walker *et al*, 2010). SBHCs strive to meet the health care needs of children and young people through an access model that encourages health and wellness with an emphasis on prevention, early identification and intervention. Based on the National Assembly on School-Based Health Care (NASBHC) 2007-2008 Census, there are

over 1,900 SBHCs in the United States ([ww2.nasbhc.org/Census/census\\_sbhcnatstats2.asp](http://ww2.nasbhc.org/Census/census_sbhcnatstats2.asp)). Nationally, SBHCs originally began operating out of the traditional medical model, but many found the need to expand services and move towards comprehensive health care with a greater focus on mental health concerns and prevention (Adelman *et al*, 1991; Brindis *et al*, 2003). This paper first surveys general mental health burdens and unmet needs among young people, and then focuses on the current capacity of Oregon's SBHCs to provide mental health services as a part of a continuum of integrated care for young people in the state.

## ***Mental health burden and unmet needs***

In the United States, about one in five children and adolescents has some type of mental health disorder, and about one in 10 children and adolescents suffers from a mental illness that causes some level of social, academic, or emotional impairment (Burns *et al*, 1995; Shaffer *et al*, 1996). According to the 2007 National Survey of Children's Health, younger children represent the largest gap in unmet mental health needs. Of those children who needed mental health services, about 42% of 6–11 year olds and 38% of 12–17 year olds did not receive them (Data Resource Center for Child and Adolescent Health, 2007).

Data from the Centers for Disease Control and Prevention's 2007 National Youth Risk Behavior Survey breaks down the specific areas of mental health concern among high school students who reported significant mental health needs. More than one in four (28.5%) reported feeling sad or hopeless in the past year. This rate has been consistent since 1999. Suicidal ideation is another serious issue among US high school students, 14.5% reporting having seriously considered suicide in the past year. About half of those who reported ideation also reported a suicide attempt (6.9%).

Children and adolescents experience many barriers to receiving appropriate health care. Adolescents are at particularly high risk for unmet health issues due to their increased likelihood of being uninsured, fear of stigma, and lack of familiarity with navigating a fragmented health care system (Irwin *et al*, 2002; Goldstein *et al*, 2006; Newacheck *et al*, 1999). Mental health issues can interfere with normal youth development and function, creating social and academic difficulties (Aviles *et al*, 2006; Fergusson *et al*, 2002). The age of onset for major mental health disorders can occur as early as seven to 11 years, so addressing mental health needs early in children's lives can affect their future well-being and development (Kessler *et al*, 2005).

Children of all ages require mental health services, and many of those who require services have difficulty receiving care to meet their specific needs. A school-based health center is one health care delivery model that may help fill that gap.

## ***SBHCs and mental health***

School-based health centers (SBHCs) reduce traditional barriers to care by meeting the health care needs of children and young people where they are located. One study showed that availability of services on school grounds helped students miss less class time. The study also showed a relationship between receiving mental health services in the SBHC and increased grade point averages among students (Walker *et al*, 2010).

SBHCs are created and sustained by collaborations with the school, health care organizations and the community. These partnerships allow for appropriate, easily accessible and immediate care, and may help reduce cultural and socioeconomic barriers that children and adolescents experience in traditional health care settings (Cummings *et al*, in press).

SBHCs have always focused on providing accessible care to

young people, but the types of services have shifted over time. Originally, SBHCs concentrated primarily on serving young people in high-risk environments, such as urban high schools targeting teen pregnancy prevention. After recognizing the benefits and successes of being located in a youth-friendly, confidential and safe environment, the SBHC model evolved to include comprehensive primary care services (Brindis *et al*, 2003), and more SBHCs began to recognize the unmet mental health needs of children and young people and integrated those services into the centers. The NASBHC 2004–2005 Census, the most recent data available, reported that about 65% of the SBHCs had services provided by mental health staff.<sup>1</sup>

## ***Service integration***

Historically, physical and mental health care services have operated under separate healthcare delivery systems (National Association of State Mental Health Program Directors (NASMHPD), 2006; Horvitz-Lennon *et al*, 2006). As more research reveals the connection between mental and physical health, there is increased concern that fragmented care creates barriers to effective health services, especially for those with mental health disorders (NASMHPD, 2006; Horvitz-Lennon *et al*, 2006; Westheimer *et al*, 2008; Vreeland, 2007). Consequently, state and local entities are focusing on integrated care as a possible solution to unmet mental health problems. Integration of behavioral and physical health can be understood as a continuum, ranging from primary care practitioners referring out for mental health services, to full integration of clinical, administrative and financial services (Figure 1, page 3). Integration of these two systems of care allows for better coordination and delivery of services, and in turn, improved outcomes in both mental and physical health (Weist *et al*, 2003; Thielke *et al*, 2007).

The evolved SBHC model encourages centers to adopt policies that support the integration of mental and physical health care services to break down traditional barriers encountered by young people. Various factors can determine what level of service integration occurs within an individual SBHC. Table 1, page 4, provides some hypothetical examples of where and why SBHCs lie on the integration continuum.

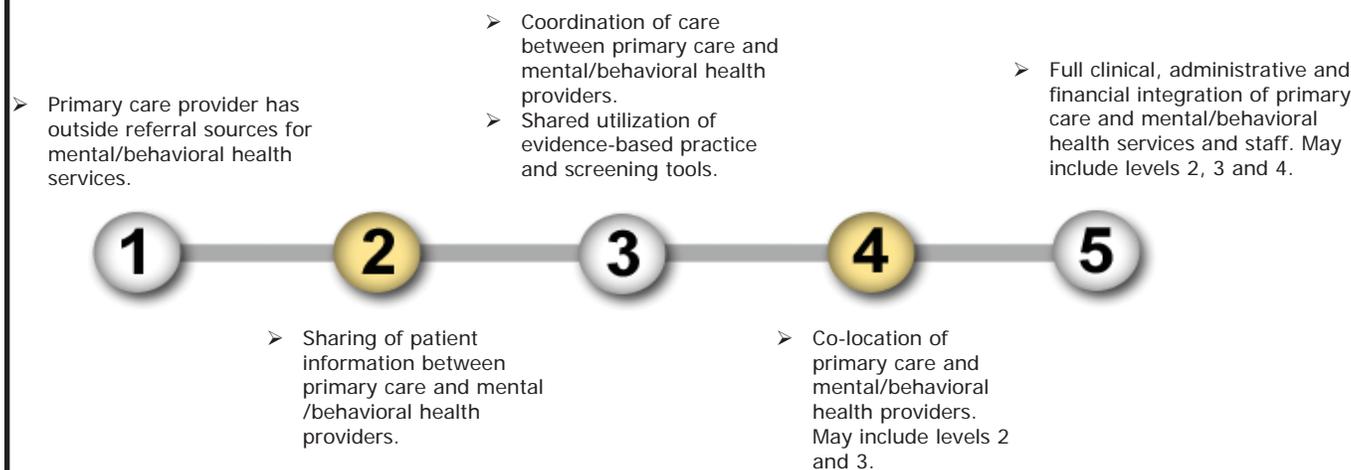
## **Oregon SBHCs and mental health**

### ***Mental health burden and unmet needs***

The mental health burden and unmet needs in Oregon are similar to those at national level. For example, according to the Oregon Department of Human Services, in 2006–2007 approximately 12–22% of Oregon children needed some level of mental health service and about 12% (more than 108,000) suffered from a serious emotional disturbance (Goldberg, 2008). In 2006–2007, Oregon's Addictions and Mental Health Division reported that the public mental health system served more than 36,000 Oregon children, an increase of almost 25% from 2001–2002. In spite of the documented increase, there are still gaps in Oregon's capacity to meet the mental health needs of young people, particularly of older children. According to the 2007 National Survey of Children's Health,

<sup>1</sup> [http://www.nasbhc.org/site/c.jsJPKWPFJrH/b.2716675/k.9D3E/EQ\\_National\\_Data.htm](http://www.nasbhc.org/site/c.jsJPKWPFJrH/b.2716675/k.9D3E/EQ_National_Data.htm)

**Figure 1: Primary Care and Mental/Behavioral Health Integration**



of those children who needed mental health services in Oregon, about 42% of 6–11 year olds and 56% of 12–17 year olds did not receive them (Data Resource Center for Child and Adolescent Health, 2007). The 2008 Oregon Healthy Teens (OHT) survey reported that, among all surveyed 8th and 11th graders, 15% reported having an unmet mental health need in the past year ([www.dhs.state.or.us/dhs/ph/chs/youthsurvey/ohtdata.shtml#2008](http://www.dhs.state.or.us/dhs/ph/chs/youthsurvey/ohtdata.shtml#2008)).

Oregon’s assessment of specific areas of mental health need also shows similar results to national data. The OHT survey found that in 2008, 12.9% of 11th graders reported suicidal ideation and six per cent reported at least one suicide attempt. From 2001 to 2008, 8th graders reported higher rates of suicidal ideation and suicide attempts than 11th graders, except for 2006.

**SBHCs and care integration**

In Oregon, SBHCs provide physical, mental and preventive health care services. Since 2000, Oregon SBHCs have been required to undergo a biennial certification process in order to receive State funding. The certification process requires completion of a certification application and a site visit by the Oregon SBHC State Program Office. The site visit includes a review of the clinic space, policies and procedures, and clinic patient flow. Successful completion of certification is defined by the Oregon SBHC State Program Office’s Standards for Certification, which requires centers to maintain a minimum level of staffing and services. Currently, all certified SBHCs must provide some on-site basic mental health care such as risk assessment screening, and alcohol and other drug pre-assessment and crisis intervention. However, Oregon SBHCs are not required to have a mental health provider on-site, so mental health services may be provided by a medical provider.

Providing accessible and integrated mental health care is a priority for some Oregon SBHCs, and many of them have chosen to offer mental health services beyond the minimum requirements. Individual centers are spread across the integration continuum, according to community needs and resources and logistical or technical limitations. The remainder of this paper is an analysis of how the program characteristics

of Oregon’s SBHCs influence the degree to which they are able to achieve mental health service integration.

**Method**

In an effort to understand better the ability of Oregon’s SBHCs to meet the mental health needs of young people in the state, the Oregon SBHC State Program Office in the Department of Human Services Public Health Division conducted a multi-pronged review of the mental health system in Oregon’s School-Based Health Centers in 2006.

The goals of the review were:

- to identify gaps in and barriers to SBHC mental health systems
- to set priorities for organizational development
- to identify technical assistance/training needs
- to provide data to support sustainable funding for mental/behavioral health services.

The SBHC mental health needs review comprised three data sources: SBHC encounter data, a mental health needs assessment survey, and a patient satisfaction survey. The methods for each data source are described below.

**SBHC encounter data**

All 45 certified SBHCs in Oregon submitted client visit encounter data to the State Program Office for the 2006–07 school year. Client and visit information is collected on each encounter visit, including basic demographics, provider type, and diagnostic and current procedural terminology (CPT) codes. Eighteen of 28 SBHCs with mental health providers on site reported mental health provider encounter data to the State Program Office. The remaining ten SBHCs were unable to provide mental health provider encounter data for a variety of reasons, mainly related to fragmentation of data systems that prevented linking mental health and physical health encounters to the same client. Data were tabulated and analyzed using a t-test to determine whether students with a mental health diagnosis were more likely to have a higher number of other total visits.

**Table 1: Hypothetical Examples of SBHCs Based on the Integration Continuum**

Integration Level	Example Scenario
1	The SBHC is staffed with a primary care provider on-site. The primary care provider does not have formal agreements in place and therefore refers students for mental health services to multiple mental health clinics in the community. The primary care provider does not follow up with the mental health clinics due to lack of time and tracking system.
2	The SBHC is staffed with a primary care provider on-site. There is a memorandum of understanding in place to refer students to a mental health provider in the community. A tracking system is in place to follow up with students on referrals, and both providers request a release of information from students to share health information.
3	The SBHC is staffed with a primary care provider on-site and a mental health provider off-site. All providers are employed by the same agency and therefore can coordinate care without release of information and are trained with the same practices and tools. The mental health provider is not conveniently located and is therefore less accessible for the students.
4	The SBHC is staffed with a primary care provider and mental health provider on-site, which allows for accessible mental health services for students and better communication and care coordination between providers. Providers are employed by different agencies and therefore must request a release of information from students to share health information.
5	The SBHC is staffed with a primary care provider and mental health provider, both on-site and employed by the same agency. Mental health services are easily accessible to students in the SBHC. Providers are trained with the same practices and tools. Providers can share health information without a release of information from the student. Providers coordinate care and communicate regularly regarding their practices in the center.

**Mental health needs assessment survey**

Forty-four certified SBHCs in Oregon received a one-time 31-question survey. Surveys were completed by 42 centers from seven elementary schools, six middle schools, 27 high schools, one K-12 school, and one elementary/middle school. Due to the variation in staffing patterns in the SBHCs, a SBHC mental health provider, another SBHC health care provider or a team of providers completed the questionnaire for each center. For example, some SBHCs are staffed with only one primary care provider, who would complete the survey on the basis of their own practices. Other SBHCs have a team of providers who meet regularly, and preferred to answer the questions in a team setting. In some situations, the mental health provider took the lead in completing the survey, but checked in with the medical providers to collect responses. Regardless of who completed the survey, the survey responses were meant to reflect all mental health services in the center.

Topics included:

- mental health staffing
- referrals
- frequently seen mental health problems
- mental health services
- barriers to providing mental health services
- effects of funding restrictions
- screening tools
- training.

Quantitative analyses were performed by applying Chisquare and t-tests to analyze the impact of co-located primary and mental health care services. Because the survey responses were often categorical (for example, barriers to providing mental health services), a nonparametric Chi-squared approach was often used. Where responses were quantitative (for example, number of hours a mental health provider is on-site), differences between subgroups were analyzed using t-tests.

**Patient satisfaction survey**

Certified SBHCs who primarily see students in grades 6–12 administer annual patient satisfaction surveys. Because this survey is for public health evaluation purposes only, no IRB approval was required. For 2006–07, the 12-question surveys were sent to SBHCs representing six middle schools, 27 high schools and one K-12 school (due to concerns over student ability to self-administer a written survey, elementary schools were excluded from the survey). Immediately following a visit, the SBHC provider asked the student to fill out the confidential survey. A proportional random sampling method guided the selection of students. Each eligible SBHC is given a target sample number according to the proportion of total medical encounters that each SBHC had recorded during the previous year. To achieve that target sample, students are randomly selected to participate in the patient satisfaction survey by a coin flip.

Topics included:

- accessibility and utilization
- accessibility to other health care providers
- prevention messages received
- comfort level in SBHC and with staff
- effectiveness of services and staff
- unmet physical and mental health needs.

Patient satisfaction data were analyzed by using Chi-square tests to examine whether reported unmet mental health need were associated with the co-location of SBHC mental health providers.

**Results**

Each data source provides various types of information for the purposes of examining the picture of mental health care in SBHCs. Results for each source are provided below.

### Mental health staffing (mental health needs assessment survey)

Sixty-seven per cent of the surveyed SBHCs reported having a mental health provider on-site (six elementary, two middle and 20 high school SBHCs). The definition of a mental health provider included any Masters-level mental health specialist and did not include medical providers. **Table 2**, below, shows the number of each type of on-site mental health provider found in the surveyed SBHCs by school level.

As expected, centers with a mental health provider reported far greater capacity to provide mental health services in the SBHC. In those centers with an on-site mental health provider, staff (medical or mental health) provided an average of 26.4 mental health hours per week versus 8.6 mental health hours in centers without a mental health provider ( $p < 0.01$ ). Mental health hours included mental health services with client or family contact.

### Frequently seen mental health problems (mental health needs assessment survey)

SBHCs ranked their top three most frequently seen mental health problems for males and females. Although there was some variation in the ranking order according to school level and gender, all SBHCs reported the same five mental health problems most frequently presented in the SBHC: social, interpersonal or family problems, aggression or disruptive behaviors, anxiety, stress or school phobia, adjustment issues, and mood disorders. SBHCs with on-site mental health providers did not differ significantly from those without on-site mental health providers in their responses to the top three most-frequently seen mental health problems

### Mental health services (mental health needs assessment survey)

SBHCs were asked which mental health services were available in their centers, regardless of the type of staff providing the service. All centers reported offering screening and triage services. Psychiatric evaluation (24%) and psychological testing (22%) were the services least likely to be provided. **Figure 2**, page 6, shows those services that SBHCs with mental health providers are significantly more likely to provide than SBHCs without mental health providers.

### Mental health utilization (SBHC encounter data)

In 2006–2007 there were 45 certified SBHCs in 19 of 36 Oregon counties, which served 20,831 clients in 69,034 visits. Of all the SBHC visits, 14.5% included a mental health component. Of those visits, 54% were provided by a mental health provider and 46% by a non-mental health provider. The mental health visit count is under-estimated because ten sites with mental health providers on site were unable to report mental health encounter data to the State Program Office. The encounter data available showed that having a mental health diagnosis was associated with an increased average number of visits to the SBHC for any health concern. In 2006–2007 the average number of total visits for clients without a mental health diagnosis was 2.60 (s.d. = 3.18), compared to an average of 7.74 (s.d. = 8.69) total visits for those with a mental health diagnosis ( $t(20829) = -58.60, p < 0.001$ ).

### Unmet mental health care needs (patient satisfaction survey)

Based on results from the 2006–2007 Patient Satisfaction Surveys, 590 clients in 34 middle and high school SBHCs (22 SBHCs with a mental health providers) responded to the question ‘During the past 12 months, did you have any emotional or mental health care needs that were NOT met (count any situation where you thought you should see a counselor, social worker or other mental health professional)?’. Clients in SBHCs without a mental health provider were about 2.4 times as likely to report an unmet emotional or mental health care need as those in SBHCs with a mental health provider (17% vs. 7%;  $p < 0.05$ ).

### Barriers to providing mental health services (mental health needs assessment survey)

SBHCs were asked to rank a list of barriers to providing mental health services, with 1 being ‘not a barrier’ and 4 being a ‘serious barrier’. The results are shown in **Figure 3**, page 7.

SBHCs with mental health providers were significantly more likely than SBHCs without mental health providers to report the following factors as barriers to providing care:

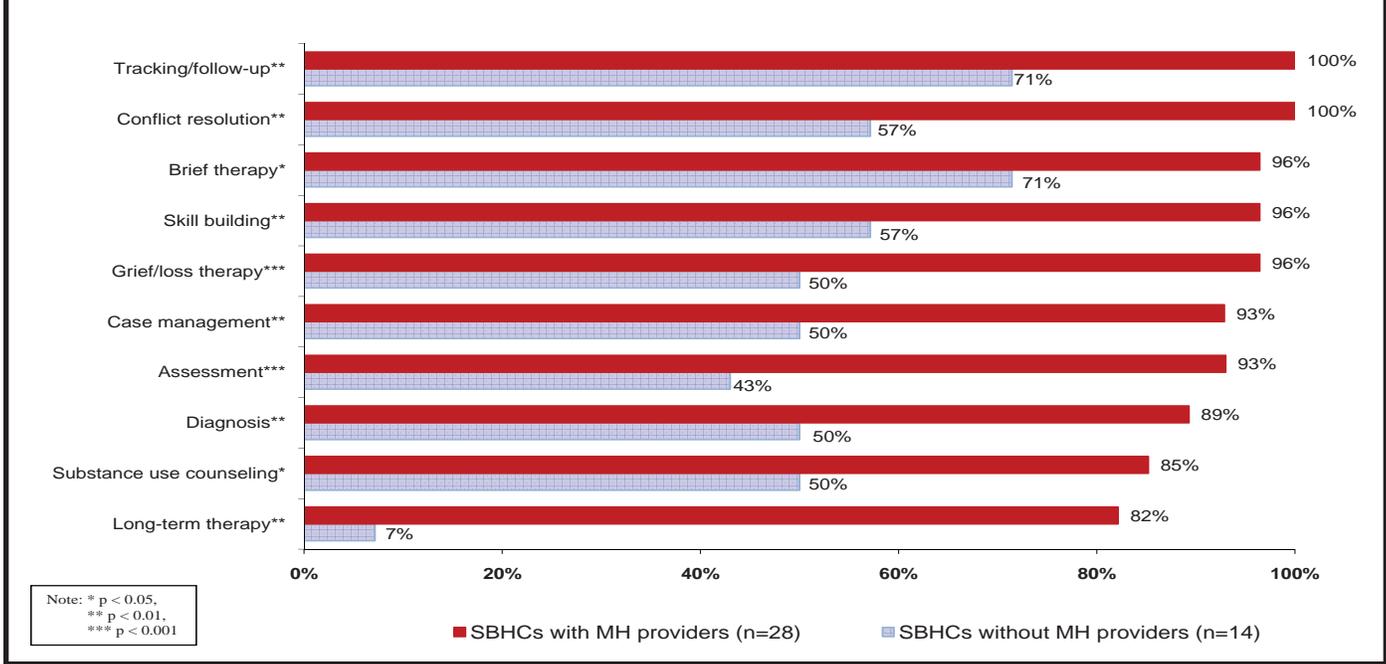
- paperwork requirements for SBHC mental health clinicians
- stigma associated with mental health services

**Table 2: On-Site Mental Health Providers by School Type**

Provider Type / School Type	High School (n=20)	Middle School (n=2)	Elementary School (n=6)	Total
Licensed Clinical Social Worker	10	1	1	12
Licensed Professional Counselor	5	0	1	6
Master of Social Work	3	0	3	3
Counseling Psychologist	4	1	0	5
Psychiatric Nurse Practitioner	3	1	0	4
Certified Alcohol & Drug Counselor	2	0	0	2
Certified Clinical Mental Health Counselor	1	0	0	1
Psychiatric Registered Nurse	0	0	1	1
Other*	4	0	1	5
<b>Total</b>	<b>32</b>	<b>3</b>	<b>7</b>	<b>42</b>
<i>Average # of total mental health provider hrs/week</i>	29	19	21	

\*Other included Masters in Counseling Psychology, Marriage Family Therapist intern, and Psychologist Associate

**Figure 2: Percentage of SBHCs where Mental Health (MH) Services are Provided by any staff**



- perception by school staff that class time is lost with therapy
- operational costs.

As shown in **Figure 3**, page 7, SBHCs without mental health providers were significantly more likely to report operational costs as barriers to providing mental health services in the SBHC (average barrier rating 3.9 versus 3.3,  $p < 0.05$ ).

### Effects of funding restrictions (mental health needs assessment survey)

SBHCs were asked to what degree certain issues were affected by funding restrictions. More than half of the centers identified the following issues as being affected by funding restrictions to a **moderate or major** degree:

- number of clients who can be seen (86%)
- types of mental health service provided (74%)
- number of sessions or duration of mental health services (71%)
- providers considered eligible to provide services (62%)
- type of staff who can provide services (62%)
- number of uninsured/under-insured clients that can be seen (55%).

SBHCs without a mental health provider were significantly more likely than those with a mental health provider to report the following issues as limited by funding restrictions to a **moderate or major** degree:

- types of mental health service provided (100% vs. 61%)
- types of staff who can provide services (100% vs. 43%)
- number of sessions or duration of mental health services (93% vs. 61%)

- providers considered eligible to provide services and location of service (93% vs. 46%).

The above differences were statistically significant at the  $p < 0.05$  level.

All the middle schools reported the number of sessions or duration of mental health services and types of staff who can provide services to be affected by funding restrictions to a moderate or major degree, compared with about 60% of high schools.

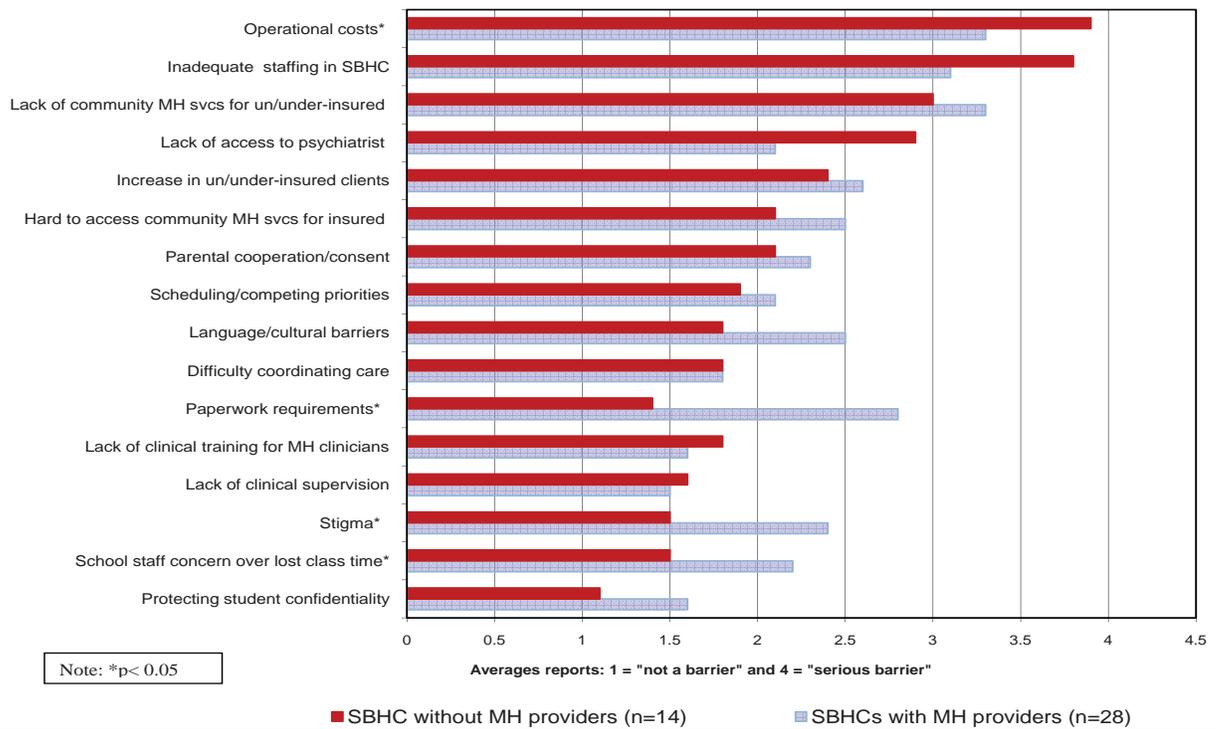
## Discussion

Based on youth self-reported mental health status and the results from the SBHC mental health needs assessment, Oregon SBHCs are working to meet the mental health needs of Oregon’s young people on multiple fronts. However, several areas emerge as worthy of discussion and potential improvements.

### *Service capacity and array*

It is evident from our data that staffing is a primary concern for SBHCs trying to provide mental health services. Primary care practitioners provide an important array of mental health services in SBHCs, but having a dedicated mental health provider in the SBHC was shown to be of great value in decreasing the likelihood that young people would report an unmet emotional or mental health care need in the past year. This suggests that SBHCs currently without a mental health provider could meet the mental health needs of students better by increasing the number of dedicated mental health provider services on-site. The data clearly show that many Oregon SBHCs may not have the capacity to offer more intensive and/or specialized mental health services such as psychiatric evaluation, psychological testing and long-term therapy.

**Figure 3: Barriers to Mental Health Services: SBHCs with Mental Health Providers Compared with SBHCs without**



Providers reported that the most frequently-seen mental health issues in Oregon SBHCs were concerns over school disruption, anxiety, and interpersonal/family/social problems. The results from Oregon’s SBHCs align well with national data, which report interpersonal/family/social problems as the most frequently seen mental health problem in schools at all school levels, and disruptive behavior and anxiety as the second most frequently seen among males and females respectively (Foster *et al*, 2005).

### Targeted needs

While the staffing issue had an impact on many Oregon SBHCs serving different regions and age groups, the data revealed that the middle school population might be more at risk of being understaffed than other grade levels. Aside from the two combined-level schools, middle school SBHCs were identified as having the fewest mental health providers and the fewest mental health provider hours per week (Table 2). Oregon data reveal what a vulnerable time middle school can be for young people. According to the 2008 Oregon Healthy Teens survey quoted earlier, rates for suicide contemplation, recent harassment at school, and physical fighting are all consistently and significantly higher for 8th graders than 11th graders in Oregon. This information suggests a substantial need for increased mental health resources to be available to middle school students. If school districts are looking to maximize their impact on mental health prevention and treatment, adding or increasing mental health provider time on-site in middle school SBHCs is a priority.

### Funding

Clearly, many of the challenges that SBHCs face in relation to staffing, capacity and infrastructure building are highly connected to the issue of funding. Oregon’s SBHCs are

funded in part by the State General Fund. Each state dollar is used to raise about \$3–4 from other sources in the local community to sustain a center. One of these potential sources is reimbursement by billing private and public health insurance, but this is quite challenging for many SBHCs. In order to reduce the barriers identified to providing mental health services, such as operational funding and limitations in provider types, a stronger focus on increasing community partnerships (specifically community mental health programs and federally qualified health centers) and building SBHC capacity to be reimbursed for services is of central importance.

This review suggests two important agendas:

- increase funding for on-site mental health providers
- address barriers to integrating mental health into existing school-based health centers.

The following strategies are recommended to begin addressing these issues.

### Building partnerships

Adding staff is a resource-intensive endeavor, and often a significant challenge for local SBHCs. Success in building additional staffing capacity may require partnerships with local community mental health organizations and increased funding. On the basis of extensive interviews with multiple states regarding school mental health services, NASBHC (2009) identified the need for state and community stakeholders to coordinate resources as one of the 10 critical factors in advancing school mental health. A Memorandum of Understanding (MOU) could be employed in this scenario to implement a formal partnership and establish common expectations for service provision across state youth-serving agencies (for example between education, mental health and juvenile services). Encouraging, incentivizing or even

requiring community mental health centers to provide a minimum number of provider hours in their local SBHCs could be an effective way of addressing the capacity issue.

### ***Strengthening infrastructure***

Services and staffing are obviously essential to building a stronger mental health system in SBHCs, but infrastructure is also important. One salient example is in data collection and reporting. There is an obvious gap in the mental health data collection system and integration of the data at local level in Oregon SBHCs. In order to support the future of mental health capacity building within SBHCs, the State Program Office needs to collect accurate information on the annual SBHC client encounter data. Further work needs to be done to identify the exact barriers to providing the State Program Office with the mental health encounter data in order to have a more accurate surveillance system and provide better technical assistance. Possible solutions to this lack of sufficient data infrastructure include developing more comprehensive policies on data reporting, establishing specific data-sharing agreements with centers, and providing encounter code trainings and other technical assistance needed to providers.

In summary, Oregon SBHCs are located at various points on the continuum of mental health integration (**Figure 1**), from greater reliance on referrals to increased clinical, administrative and financial integration of mental health and primary care services. One advantage of Oregon's SBHC model is that even the least integrated of centers exceed the lowest end of the continuum in not relying exclusively on referrals for mental health service provision. These tend to be centers that lack on-site mental health staff, but provide on-site mental health screening by a medical provider and are required to refer out when necessary. Other centers, closer to the higher end of the continuum, have mental health providers on-site who operate under the same employer as the medical provider and therefore share administrative and financial systems. Community capacity, needs and desires, in addition to the structural barriers displayed in **Figure 3**, are among the drivers that determine where a center sits on the integration continuum. According to the reported barriers to providing mental health services and the effects of funding restrictions, some centers would be most likely to benefit from having a more fully integrated system in their SBHC. An integrated SBHC system could help reduce operational costs and reduce the need to rely on community providers to see more under-insured uninsured clients for mental health concerns.

Although a fully integrated SBHC system may seem ideal, it is important to note that the 'best' place on the continuum may differ for each center, depending on its particular population and community makeup. The goal should be to develop the capacity to address youth physical and mental health concerns comprehensively; some centers may be quite successful at this task without full integration. As each center addresses its own barriers and limitations, it can then determine its capacity to integrate mental health services into the SBHC according to need rather than resources/funding. SBHCs do not operate in a vacuum; in order to overcome their barriers successfully, reforms must be made in the national health care system to provide financial and other incentives that increase integration across larger health care entities.

### ***Limitations***

The data reported in this study are subject to some limitations. First, each of the described data sources introduces possible bias due to missing SBHCs and/or age groups. In particular, elementary school students are not represented in the patient satisfaction survey, due to a concern over their ability to self-administer a written survey in a short amount of time. Ten SBHCs did not provide mental health encounter data, raising some questions about whether the sample is representative; those who were able to provide data may have been different on important dimensions.

Second, the data represented in this paper are clinically-focused (staffing patterns, types of services, etc), but full integration of physical and mental health care services also involves modifying administrative and financial arrangements. Because of the complexities involved and the capacity required to collect and analyze these types of information, data collection in those areas has not been possible. In the future, we hope to be able to broaden our analysis to incorporate these data from Oregon SBHCs.

This is a descriptive assessment that produced findings which are in need of replication and application of more formal research designs (for example, testing the incremental contribution of well-trained mental health programs and staff to the impact of SBHCs). Designs including mixed methods involving quantitative and qualitative (such as focus groups or key informant interviews) analyses would be particularly helpful.

### **Conclusion**

Data from multiple sources reveal that local needs for mental health services meet or exceed the capacity of most Oregon SBHCs to provide sufficient services and staffing. Creative, multi-layered solutions may be required to address the barriers identified and increase center capacity. Each SBHC needs to find a place on the continuum of mental health integration that is both realistic and sufficient for addressing community needs. Building this capacity will take increased partnerships, strengthened ability to be reimbursed for services, renewed focus on infrastructure, including strong data systems, and support from local, regional and state partners.

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