

Appendix C

School Based Health Center User Outcomes Evaluation

SBHC Evaluation Report

The staff at Organizational Research Services (ORS) worked with representatives from Youth Health Services – Public Health-Seattle & King County (PHSKC), the Epidemiology Planning and Evaluation (EPE) unit at PHSKC, the School Based Health Center Clinic (SBHC), and the Secondary School Nurses program through the Seattle Schools in the development of an evaluation design intended to collect data about the impact of School Based Health Center Clinic and School Nurse services provided in selected middle and high schools in Seattle. Starting in the Fall of 2002, an evaluation team convened to conceptualize a theory of change model, identify and select a set of program outcomes and indicators, create a comprehensive evaluation plan to measure the indicators, develop a SBHC clinic and School Nurse user survey to be completed at multiple time points over the course of the year, and implement a system for data collection over the course of the school year.

Collectively we identified a set of five short and intermediate term outcomes with appropriate indicators that could be gathered through the use of Pre-Post surveys completed by SBHC clinic and School Nurse users. The following table presents the outcomes and indicators measured in the current evaluation.

Outcomes	Indicators	Data Sources
<i>ST1: Improved Individual Functioning</i>	<ul style="list-style-type: none"> ▪ Increased demonstration of positive self-care e.g., exercise, hours of sleep, eat fruits and vegetables, seen the dentist ▪ Improved ability to handle problems or difficulties ▪ Improved mental health functioning i.e., look forward to the future, less likely to feel sad and hopeless 	<ul style="list-style-type: none"> ▪ SBHC HS Users ▪ SBHC MS Users ▪ School Nurse Users
<i>ST2: Students feel more connected to school, adults, and/or family</i>	<ul style="list-style-type: none"> ▪ Reports feeling connected to one or more adults in the school setting 	<ul style="list-style-type: none"> ▪ SBHC HS Users ▪ SBHC MS Users ▪ School Nurse Users
<i>ST4: Increased knowledge of an ability to use health resources</i>	<ul style="list-style-type: none"> ▪ Increased knowledge of alternative places for mental health and reproductive health services ▪ Increased knowledge of appropriate places for help 	<ul style="list-style-type: none"> ▪ SBHC HS Users ▪ SBHC MS Users ▪ School Nurse Users
<i>IN1: Improved Functioning in School Setting</i>	<ul style="list-style-type: none"> ▪ Increased ability to focus on school work ▪ Increased belief that could get help at school for health problems 	<ul style="list-style-type: none"> ▪ SBHC HS Users ▪ SBHC MS Users ▪ School Nurse Users
<i>IN3: Increased preventive and reduced risky health behaviors</i>	<ul style="list-style-type: none"> ▪ Reduced smoking ▪ Reduced alcohol/drug use ▪ Reduced risky sexual activity ▪ Increased use of contraception and prevention methods 	<ul style="list-style-type: none"> ▪ SBHC HS Users

Since the development process was not completed until early 2003 there are some limitations associated with the findings that should be taken under consideration. Specifically, the “Pre” data collection was first initiated in February 2003 and the “Post” data was collected in May 2003. Thus we did not have a true baseline period and the time frame between the “Pre” and “Post” was a maximum of three months. As a result, while we are interested in the patterns of change in the outcomes, we do not have conclusive evidence to suggest true changes in program outcomes as a result of the program services. In the 2003-2004 school year, the program has administered Baseline surveys during a student’s initial visit to the Health Center or School Nurses and expects to collect follow-up surveys from users at some point in the Spring of 2004. The program will thus have the capacity to better assess true changes over time.

Surveys were given to all students having a first SBHC clinic or School Nurse visit in February 2003. SBHC clinic staff and school nurses kept track of which students had completed surveys so they could be contacted for a follow-up post-test in May or June of 2003 if they did not otherwise come in for a visit during that time period. The table below indicates the number of pre- and post-tests completed for high school and middle school students who either used the SBHC clinic or School Nurse services. Data from matched pre- and post- surveys from 162 high school and 131 middle school students were linked with specific SBHC clinic user information for analysis purposes. Data from matched pre- and post-surveys from 102 high school and 179 middle school students utilizing school nurse services were also linked for analysis purposes.

SBHC Clinic Users			
	Pre-tests completed	Post-tests completed	Matched Pre/Post Tests
High School	661	426	162
Middle School	226	221	131
School Nurse Users			
	Pre-tests completed	Post-tests completed	Matched Pre/Post Tests
High School	599	287	102
Middle School	530	398	179

The data analysis focuses on assessing the change in the stated outcomes and indicators between the Pre and Post assessments. We used mean comparisons, cross-tabulations and paired t-tests of statistical significance to measure changes in paired samples (i.e. those with BOTH Pre and Post surveys) of SBHC and School Nurse users. Given that the current analysis only reflects the survey data collected over a short window of time in the school year (i.e., from February through May 2003), our paired samples are relatively small given the large number of users served by the Health Centers and School Nurses.

- SBHC High School Users (n=162)
- SBHC Middle School Users (n=131)
- School Nurse High School Users (n=102)
- School Nurse Middle School Users (n=179)

There was also interest in examining whether the patterns in program outcomes vary for different subgroups in the User population. In particular there was interest in assessing whether some of the changes in functioning and behavior measures differed for those students receiving mental health/counseling services, health maintenance services, and/or contraceptive management

services. To facilitate this analysis we matched the survey data based on school ID to a set of variables extracted from the SBHC user database maintained by Public Health.

For the purposes of this analysis we identified these groups by looking at a student's types of visits that occurred between the Pre and Post periods. This year, since the "window" of time between the Pre and Post was arbitrarily short (i.e., maximum of three months), many of the variables were categorized as yes/no (e.g., students with 0 "mental health" visits vs. those with 1+ "mental health" visits). In the future when the amount of time between the Baseline and Follow-up is longer and more accurate the program will have the ability to examine greater variability in the types of visits.

The specific subgroups for the different paired samples examined in this study include:

SBHC High School Users

- Students with 1+ *Health Maintenance* Visits between Pre and Post (n=39)
- Students with 1+ *Mental Health* Visits between Pre and Post (n=37)
- Students with 1+ *Reproductive Preventive* Visits between Pre and Post (n=72)

SBHC Middle School Users

- Students with 0 vs. 1+ *Medical/Illness* Visits between Pre and Post (n=43)
- Students with 0 vs. 1+ *Mental Health* Visits between Pre and Post (n=42)

School Nurse High and Middle School Users

- Students with 0 vs. 1+ "*Brief Counseling*" Visits between Pre and Post (n=63 for HS and n=74 for MS)
- Students with NO *Health Concern* vs. those with a *Health Concern* (n=27 for HS and n=74 for MS)

DEMOGRAPHIC CHARACTERISTICS – SBHC and SCHOOL NURSE USER SAMPLES

	SBHC – High School Students (n=162)	SBHC – Middle School Students (n=131)	NURSES – High School Students (n=102)	NURSES – Middle School Students (n=179)
SCHOOL				
Ballard	2.6%		2.0%	
Cleveland	11.6%		1.0%	
Franklin	12.9%		17.6%	
Garfield	5.2%			
Nathan Hale			3.9%	
Rainier Beach	9.0%		1.0%	
Roosevelt	7.7%		13.7%	
Sealth	36.8%		56.9%	
W Seattle	14.2%		3.9%	
Denny MS		54.3%		43.0%
Madison MS				26.8%
Washington MS		45.7%		30.2%
GRADE				
6		21.3%		27.9%
7		36.2%		39.7%
8		42.5%		32.4%
9	17.4%		40.2%	
10	27.7%		28.4%	
11	29.0%		19.6%	
12	25.2%		11.8%	
GENDER				
Male	18.1%	33.1%	34.3%	42.5%
Female	81.3%	66.9%	65.7%	57.5%
RACE/ETHNICITY				
African American	25.8%	30.7%	21.6%	39.7%
Asian/Pacific Islander	20.0%	14.2%	21.6%	19.0%
Hispanic	16.1%	11.8%	24.5%	12.8%
Native American	0.6%		2.9%	1.1%
Caucasian	35.5%	40.9%	29.4%	26.3%
Other	1.9%	2.4%		

Summary Conclusions and Findings

The current analysis identifies some patterns of change in key program outcomes among SBHC and School Nurse users over the course of the school year. We found improvements in Individual Functioning measures such as **days of exercise** or **use of the dentist** in the overall samples and among those using the Health Center or Nurse for health maintenance issues. Likewise we find some improvements in Mental Health Functioning among those who are using the Health Center to address mental health issues. In addition, the data suggests that users are forming more connections with adults in the school setting. All of these findings indicate that users are starting to benefit from their use of the health services with respect to their ability to function well in the school setting.

Not surprisingly the most dramatic changes over time among user are revealed through gains of knowledge about health resources. In general, the Health Center and School Nurses users have increased their ability to identify alternative locations for **Mental Health** and **Reproductive Health** services and to correctly identify appropriate locations for assistance for student in need (*based on a scenario question*). Of further interest are two additional findings: 1) SBHC HS Mental Health users DO NOT increase their knowledge of alternative Mental Health Services and 2) for many populations the user incorrectly identify the Urgent Care Clinic as a resources for someone with a mild illness.

The overall analysis suggests few changes over time in risky and preventive behaviors among SBHC HS users. A further investigation of SBHC HS Reproductive Health users does demonstrate some decreases over time in their likelihood of **sexual activity** and **sex with multiple partners**, but also slight decreases in the **use of condoms** among those having sex.

The evaluation findings point to some promising improvements in functioning, knowledge and behaviors to be further explored down the line. As noted earlier this analysis was based on smaller sample of users with Pre and Post data collected at somewhat arbitrary times during the school year. With the complete implementation of the evaluation approach during the 2003-2004 school year the program should expect to gather more accurate data about change in outcome measures and have the capacity to examine a wider range of different subgroups. At this juncture there is “cautious” evidence of the program impact on short-term outcomes and more importantly strong evidence that the evaluation methodology in place will allow the program to address many questions about impact and efficacy in the future.

OUTCOME: Improved Individual Functioning, Improved Functioning in School Settings, Students feel more connected to adults

The analysis – refer to TABLES 1 and 2 – identifies some increases over time in measures of Individual Functioning with respect to increased demonstration of self-care. We observe significant increases in the overall SBHC and School Nurse User populations in the **average days of reported exercise** and the **use of the dentist in the last year** and additionally see increases in these measures in SBHC user populations who have participated in *Health Maintenance* visits and Nurse user populations who have a *Health Concern*.

In contrast we see little change in the measures of Mental Health Functioning in the overall user populations and some contradictory findings when we look at specific user populations. For example, among SBHC High School Users with *Mental Health* visits we find that they are less likely to “**feel so sad and hopeless that I stop doing things I would usually do**” but also less likely to “**look forward to the future.**” Likewise we observe a decreased ability to “**handle**

problems or difficulties” among School Nurse HS Users with a *Health Concern* or *Brief Counseling* visits

The analysis indicates that the average SBHC HS user reports an increase in the number of **“adults at the school that he/she would feel comfortable speaking with about a personal problem.”** This increase is particularly evident for HS and MS Users with *Mental Health* visits suggesting that addressing mental health concerns might contribute to students’ feelings of connectedness in the school settings.

We only observe changes in the School Functioning indicators in the different user subgroup populations. Once again the patterns of change seem contradictory when we look at different populations. For example, while SBHC HS users with *Mental Health* visits are more likely to agree that **“if I had an ongoing health problem I know I would get the help needed at school to handle this problem”**, SBHC MS users with *Mental Health* visits are less likely to agree that **“if I got hurt at school I know I would get the help needed at school to handle this problem.”** Moreover, while School Nurse HS users with *Brief Counseling* visits report that it has been LESS **“difficult to focus on my school work because of my health or other problems”**, School Nurse MS users with 1+ *Brief Counseling* visits report that it has been MORE **“difficult to focus on my school work because of my health or other problems”**.

Some specific findings for the overall samples and different subgroups of interest are presented below:

OVERALL SBHC USERS (see TABLE 1)

- There is a statistically significant increase in the **average days of exercise** among High School SBHC users from 3.33 to 3.64
- Significant increases in the percentage who **saw the dentist in the last year** among High School and Middle School users
- No changes over time in the indicators of Mental Health Functioning
- Significant increase among the High School users in the **reported # adults the youth feels comfortable speaking with** from 1.73 to 1.95
- Among MS users there is a significant decrease in agreement with the statement **“If I got hurt at school I know I would get the help needed at school to handle this problem”** from 3.55 to 3.40. We also find an increase in the belief that **“It has been difficult to focus on my school work because of my health or other problems”** from 1.66 to 1.81
- No changes over time in School Functioning indicators among the HS users

SBHC USER SUBGROUPS

- Among HS users with 1+ *Health Maintenance Visits* between Pre and Post (n=39)
 - Increase in the **average days of exercise** from 3.18 to 3.70
 - Increase in the **times per day for fruit or vegetables** from 1.89 to 2.14
 - Increase in **use of dentist** from 59% to 74%
 - No increase in the **# adults the youth feels comfortable speaking with**
 - No changes in other measures of Individual or School functioning
- Among HS Users with 1+ *Mental Health visits* (n=37)
 - Increase in **average days of exercise** from 3.21 to 3.47
 - Increase in the **# adults the youth feels comfortable speaking with** from 2.08 to 2.22
 - Decrease in agreement with the statement **“I often feel so sad and hopeless that I stop doing things I would usually do”** from 2.25 to 2.06

- Decrease in agreement with the statement **“I look forward to the future”** from 3.49 to 3.34
- Increase in belief that **“If I had an ongoing health problem I know I would get the help needed at school to handle this problem”** from 3.23 to 3.43.
- Among MS Users with *1+ Medical/Illness visits* (n=43)
 - Decrease in **average hours of sleep** from 8.03 to 7.46
 - No increase in reported **use of the dentist in the last year**
 - No increase in the **# adults the youth feels comfortable speaking with**
 - A decrease in agreement with the statement **“If I got hurt at school I know I would get the help needed at school to handle this problem”** from 3.55 to 3.33.
 - Significant increase in the belief that **“It has been difficult to focus on my school work because of my health or other problems”** from 1.83 to 2.19
- Among MS Users with *1+ Mental Health visits* (n=42)
 - Decrease in **average hours of sleep** from 7.97 to 7.59
 - No increase in reported **use of the dentist in the last year**
 - Increase in the **# adults the youth feels comfortable speaking with** from 1.85 to 2.05
 - Significant decrease in agreement with the statement **“If I got hurt at school I know I would get the help needed at school to handle this problem”** from 3.53 to 3.29.
 - Increase in the belief that **“It has been difficult to focus on my school work because of my health or other problems”** from 1.82 to 2.03

OVERALL SCHOOL NURSE USERS (see TABLE 2)

- Significant increase in the **average days of exercise** among MS Nurse Users from 3.70 to 4.08. Slight increases in **average days of exercise** among HS Nurse users from 3.61 to 3.76
- Decrease in belief that **“when I have problems or difficulties I am able to handle them”** from 2.95 to 2.73.
- No substantial changes in other measures of Individual and School functioning

SCHOOL NURSE USER SUBGROUPS

- Among HS Nurse users with a *Health Concern* (n=27)
 - Significant decrease in belief that **“when I have problems or difficulties I am able to handle them”** from 2.85 to 2.56.
 - Significant decrease in the **# adults the youth feels comfortable speaking with** from 2.31 to 1.92
- Among MS Nurse users with a *Health Concern* (n=74)
 - Significant increase in the **average days of exercise** from 3.66 to 4.31
 - Increase in belief that **“If I had an ongoing health problem I know I would get the help needed at school to handle this problem”** from 3.04 to 3.25.
- Among HS Nurse users with *1+ “Brief Counseling” Visits* between Pre and Post (n=63)
 - Significant decrease in belief that **“when I have problems or difficulties I am able to handle them”** from 2.98 to 2.63.
 - Decrease in agreement with the statement that **“it has been difficult to focus on school work because of my health or other problems”** from 2.10 to 1.95
- Among MS Nurse users with *1+ “Brief Counseling” Visits* between Pre and Post (n=74)
 - Increase in the **average days of exercise** from 3.76 to 4.15
 - Increase in agreement with the statement that **“it has been difficult to focus on school work because of my health or other problems”** from 1.82 to 2.04

TABLE 1: Overall SBHC Users: Comparison of Individual and School Functioning Indicators Pre vs. Post – Paired Samples

MEASURE	SBHC – High School Students (n=162)			SBHC – Middle School Students (n=131)		
	Pre	Post	P	Pre	Post	P
Outcome: Improved Individual Functioning						
Average Days of Week of Exercise	3.33	3.64	*	4.12	4.05	
Average Hours of Sleep	6.68	6.69		7.97	7.73	*
Average Times Per Day – Fruits or Vegetables	2.33	2.38		2.77	3.07	
Have Seen the Dentist in the Last Year	71%	80%	*	76%	83%	*
How often have problems or difficulties (<i>Scale A</i>)	2.07	2.09		1.95	2.03	
“When I have problems or difficulties, I am able to handle them” (<i>Scale A</i>)	2.81	2.84		2.83	2.95	
“I look forward to the future” (<i>Scale B</i>)	3.58	3.57		3.60	3.54	
“I often feel so sad and hopeless...” (<i>Scale B</i>)	1.96	1.94		N/A	N/A	
Outcome: Students feel more connected to adults and school						
# Adults Feel Comfortable Speaking with (<i>Scale C</i>)	1.73	1.95	*	1.75	1.83	
Outcome: Improved functioning in school settings						
Ongoing Problem – would get help needed at school (<i>Scale B</i>)	3.26	3.36		3.31	3.25	
Hurt at School – would get help needed at school (<i>Scale B</i>)	3.40	3.46		3.55	3.40	*
“It has been difficult to focus on school work...” (<i>Scale B</i>)	2.08	2.04		1.66	1.81	*

* $p < .10$ level of statistical significance based on Paired Samples *t*-test

Scale A: 1 – never, 2 – sometimes, 3 – most of the time, 4 – all of the time

Scale B: 1 – definitely NOT true, 2 – mostly NOT true, 3 – mostly true, 4 – definitely true

Scale C: 0 – none, 1 – one, 2 – two, 3 – three or four, 4 – five or more

TABLE 2: Overall School Nurse Users: Comparison of Individual and School Functioning Indicators Pre vs. Post – Paired Samples

MEASURE	NURSES – High School Students (n=102)			NURSES – Middle School Students (n=179)		
	Pre	Post	P	Pre	Post	P
Outcome: Improved Individual Functioning						
Average Days of Week of Exercise	3.61	3.76		3.70	4.08	*
Average Hours of Sleep	7.15	7.19		7.94	8.04	
Average Times Per Day – Fruits or Vegetables	2.40	2.20		2.54	3.33	
Have Seen the Dentist in the Last Year	69%	71%		84%	82%	
How often have problems or difficulties (<i>Scale A</i>)	2.13	2.12		2.00	1.96	
“When I have problems or difficulties, I am able to handle them” (<i>Scale A</i>)	2.95	2.73		2.84	2.83	
“I look forward to the future” (<i>Scale B</i>)	3.61	3.59		3.56	3.52	
“I often feel so sad and hopeless...” (<i>Scale B</i>)	N/a	N/a		N/a	N/a	
Outcome: Students feel more connected to adults and school						
# Adults Feel Comfortable Speaking with (<i>Scale C</i>)	1.98	1.90		1.89	1.81	
Outcome: Improved functioning in school settings						

Ongoing Problem – would get help needed at school (Scale B)	3.27	3.21		3.13	3.22	
Hurt at School – would get help needed at school (Scale B)	3.49	3.40		3.51	3.41	
“It has been difficult to focus on school work...” (Scale B)	2.09	2.07		1.77	1.89	

* $p < .10$ level of statistical significance based on Paired Samples *t*-test

Scale A: 1 – never, 2 – sometimes, 3 – most of the time, 4 – all of the time

Scale B: 1 – definitely NOT true, 2 – mostly NOT true, 3 – mostly true, 4 – definitely true

Scale C: 0 – none, 1 – one, 2 – two, 3 – three or four, 4 – five or more

OUTCOME: Increased knowledge of health resources

[According to the Center for Health and Health Care in Schools, less than 1/3 of young people with a diagnosable behavioral or emotional disorder get help for these problems. Of those young people that do get help, 70-80% receive their care in a school setting.]

•

The analysis – refer to TABLES 3 and 4 – indicates some increases in SBHC and School Nurse users knowledge of health resources. In particular we see substantial increases in their knowledge of alternative places with Mental Health and Reproductive Health services and ability to identify appropriate help resources in a scenario describing a student in need. For both SBHC and School Nurse users there are significant increases in the percentage that “know of a place other than the school health center where a youth can go for **Mental Health Services** or for **Reproductive Health Services**.” In general, knowledge of such alternative places is greater among High School students as opposed to Middle School students. However the most substantial improvement over time appears among SBHC MS users; in this population the percentage that “know of a place other than the school health center where a youth can go for **Reproductive Health Services**” jumps from 24 to 40 percent between Pre and Post.

We find some interesting patterns when we examine changes in these indicators for different subgroups of the user populations. While in most instances the increases observed in the overall samples are sustained in the subgroups there are some important exceptions:

- Among SBHC users with *Mental Health* visits there are **NO** increases in knowledge of **alternative Mental Health Services**. This suggests that such youth may see the Teen Health Center as their only outlet for services.
- Conversely we observe substantial increases in knowledge of **alternative Mental Health Services** among School Nurse users with *Brief Counseling* visits, especially in the MS user population (from 22% to 47%)

The second indicator assessed the student’s ability to identify appropriate health resources associated with scenario describing a student in need¹ The primary measure in this analysis was the **number of “correct” scenario responses**; the maximum value was 3, indicating correct responses of *Community Health Clinic, Community Mental Health Center, and Doctor or Pediatrician*. We observe increases in **number of “correct” scenario responses** for the SBHC

¹ “Your friend Judy has had a cold for a week: she and her boyfriend just broke up and she has an important exam coming up. She’s had a headache that won’t go away, and it’s keeping her from studying. Where would you recommend that Judy go for help other than the school health center?” (responses include Emergency Room, Community Health Clinic, Family Planning Center, Community Mental Health Center, Urgent Care Clinic, Doctor/Pediatrician, Nowhere)

and School Nurse user populations, especially among SBHC MS users and School Nurse HS users. Among the SBHC users we find the greatest increase in the identification of the *Community Health Clinic* as a recommended resource.

However, we also observe increases, particularly in the School Nurses samples, in the identification of the *Urgent Care Clinic* as a recommended resource. We should further note that we did not observe substantial declines in the identification of “**incorrect**” resources; there still appears to be a small set of users who will continue to view the *ER* or *Family Planning Centers* as resources for basic illness care.

The analysis of user subgroups points to some interesting patterns.

- The average **number of “correct” scenario responses** increases dramatically for SBHC HS users with *Health Maintenance visits* and SBHC MS users with *Medical/Illness Visits*. Though in this HS user group we also observe a significant increase in the identification of *Urgent Care* as a resource (from 7 to 26%).
- Among SBHC MS users with *Mental Health* visits there is a slight decrease in the **number of “correct” scenario responses**. This deviates from the increases among SBHC HS users with *Mental Health* visits and School Nurse users with *Brief Counseling* visits.

Some specific findings for the overall samples and different subgroups of interest are presented below:

OVERALL SBHC USERS (see TABLE 3)

- There are significant increases in the percentage that “know of a place other than the school health center where a youth can go for **Mental Health Services.**”
[This is good. Implies access to resources across disciplines, and education on how to utilize health care system.]
 - For HS Users, increase from 40 to 49%
 - For MS Users, increase from 30 to 37%
- There are significant increases in the percentage that “know of a place other than the school health center where a youth can go for **Reproductive Health Services.**”
 - For HS Users, increase from 51 to 62%
 - For MS Users, increase from 24 to 40%
- The average **number of “correct” scenario responses** increases significantly for MS students from 1.06 to 1.22. This increase is mostly attributable to a concurrent significant increase in the percentage that identify *Community Health Clinic* as a resource (47 to 60%)
- There is an increase in the percentage of HS users who identify *Urgent Care* as an appropriate resource (11 to 18%).

SBHC USER SUBGROUPS

- Among HS users with 1+ *Health Maintenance Visits* between Pre and Post (n=39)
 - Significant increases in knowledge of alternative **Mental Health** and **Reproductive Health** resources
 - Highly significant increase in average **number of “correct” scenario responses** from 0.79 to 1.31. We find substantial increases in the percent correctly identifying each of three different appropriate answers – *Community Health Clinic*, *Community Mental Health Center*, and *Doctor or Pediatrician*.

- The percentage that identify *Urgent Care* as an appropriate resource increases from 7 to 26%
- Among HS Users with *1+ Mental Health visits* (n=37)
 - Significant increases in the knowledge of alternative **Reproductive Health** resources; but no increase in knowledge of alternative **Mental Health** resources
 - Increases in the average **number of “correct” scenario responses** and in the percent correctly identifying each of three different appropriate answers – *Community Health Clinic, Community Mental Health Center, and Doctor or Pediatrician.*
- Among HS Users with *1+ Reproductive Preventive visits* (n=72)
 - Slight increases in knowledge of alternative **Mental Health** and **Reproductive Health** resources
- Among MS Users with *1+ Medical/Illness visits* (n=43)
 - Slight increases in knowledge of alternative **Mental Health** and **Reproductive Health** resources
 - Significant increase in average **number of “correct” scenario responses** from 1.02 to 1.28. We find substantial increases in the percent correctly identifying two different appropriate answers – *Community Mental Health Center and Doctor or Pediatrician.*
- Among MS Users with *1+ Mental Health visits* (n=42)
 - No changes in knowledge of alternative **Mental Health** and **Reproductive Health** resources

OVERALL SCHOOL NURSE USERS (see TABLE 4)

- There are significant increases in the percentage that “know of a place other than the school health center where a youth can go for **Mental Health Services.**”
 - For HS Users, increase from 38 to 53%
 - For MS Users, increase from 26 to 42%
- There are significant increases in the percentage that “know of a place other than the school health center where a youth can go for **Reproductive Health Services.**”
 - For HS Users, increase from 41 to 52%
- The average **number of “correct” scenario responses** increases significantly for HS students from 1.05 to 1.25. This increase is mostly attributable to a concurrent increases in the percentage that identify *Community Health Clinic* or *Doctor or Pediatrician* as a resource.
- There is an increase in the percentage of HS users who identify *Urgent Care* as an appropriate resource (7 to 17%) and the percentage of MS users (16 to 23%)

SCHOOL NURSE USER SUBGROUPS

- Among HS Nurse users with a *Health Concern* (n=27)
 - A dramatic increase in the knowledge of alternative **Reproductive Health** services from 33 to 63%
 - No change in average **number of “correct” scenario responses**
- Among MS Nurse users with a *Health Concern* (n=74)
 - Slight increases in the knowledge of alternative **Mental Health** and **Reproductive Health** services
 - No change in average **number of “correct” scenario responses**
 - Increase in the percentage that identifies *Urgent Care* as an appropriate resource from 18 to 27%.
- Among HS Nurse users with 1+ “*Brief Counseling*” Visits between Pre and Post (n=63)

- Slight increases in the knowledge of alternative **Mental Health** and **Reproductive Health** services
- Increase in the average **number of “correct” scenario responses** from 1.10 to 1.32 and in the percent correctly identifying two different appropriate answers – *Community Health Clinic* and *Doctor or Pediatrician*.
- Significant increase in the percentage that identifies *Urgent Care* as an appropriate resource from 8 to 21%.
- Among MS Nurse users with 1+ “*Brief Counseling*” Visits between Pre and Post (n=74)
 - A dramatic increase in the knowledge of alternative **Mental Health** services from 22 to 47%
 - No change in average **number of “correct” scenario responses**

TABLE 3: Overall SBHC Users: Comparison of Knowledge of Resources Indicators Pre vs. Post – Paired Samples

MEASURE	SBHC – High School Students (n=162)			SBHC – Middle School Students (n=131)		
	Pre	Post	P	Pre	Post	P
Outcome: Increased knowledge of health resources						
Knows of a place other than the school health center where a youth can go for Counseling or Mental Health Services	40%	49%	*	30%	37%	*
Knows of a place other than the school health center where a youth can go for birth control or reproductive health services	51%	62%	*	24%	40%	*
Recommended for Help – Headache Scenario ^a						
Average # CORRECT Answers (3 maximum)	1.20	1.33		1.06	1.22	*
Community Health Clinic	57%	65%		47%	60%	*
Community Mental Health Center	21%	27%		17%	19%	
Doctor or Pediatrician	43%	41%		42%	44%	
INCORRECT ANSWERS						
Emergency Room	15%	15%		8%	7%	
Family Planning Center	12%	13%		14%	8%	
Urgent Care	11%	18%	*	9%	10%	
Nowhere	8%	6%		9%	8%	

* $p < .10$ level of statistical significance based on Paired Samples t-test

a “Your friend Judy has had a cold for a week: she and her boyfriend just broke up and she has an important exam coming up. She’s had a headache that won’t go away, and it’s keeping her from studying. Where would you recommend that Judy go for help other than the school health center?”

TABLE 4: Overall School Nurse Users: Comparison of Knowledge of Resources Indicators Pre vs. Post – Paired Samples

MEASURE	NURSES – High School Students (n=102)			NURSES – Middle School Students (n=179)		
	Pre	Post	P	Pre	Post	P
Outcome: Increased knowledge of health resources						
Knows of a place other than the school health center where a youth can go for Counseling or Mental Health Services	38%	53%	*	26%	42%	*
Knows of a place other than the school health center where a youth can go for birth control or	41%	52%	*	26%	31%	

reproductive health services						
Recommended for Help – Headache Scenario ^a						
Average # CORRECT Answers (3 maximum)	1.05	1.25	*	1.13	1.21	
Community Health Clinic	52%	61%		50%	50%	
Community Mental Health Center	25%	27%		21%	24%	
Doctor or Pediatrician	28%	37%		42%	46%	
INCORRECT ANSWERS						
Emergency Room	9.8%	11%		13%	14%	
Family Planning Center	5.9%	8.8%		11%	13%	
Urgent Care	7%	17%	*	16%	23%	*
Nowhere	3.9%	5.9%		5.0%	5.6%	

* $p < .10$ level of statistical significance based on Paired Samples *t*-test

a “Your friend Judy has had a cold for a week: she and her boyfriend just broke up and she has an important exam coming up. She’s had a headache that won’t go away, and it’s keeping her from studying. Where would you recommend that Judy go for help other than the school health center?”

OUTCOME: Reduction in Risky Behaviors/Increase in Preventive behaviors

The analysis suggests little change over time in levels of risky and preventive behaviors among SBHC HS users (see TABLE 5). We should note that one of the challenges, especially in the case of sexual behavior indicators, is the small number of respondents. When you narrow the sample down to those with sexual activity in the last 2 months you are left with a sample of less than 80 students. Specifically we observe:

- No change in reported **30 day use** of cigarettes, alcohol, marijuana or other drugs
- A slight decrease from Pre to Post in the percent of students with **multiple sexual partners** in the last 2 months (19.0% to 8.4%)
- No change in the reported level of **use of condoms** during sexual intercourse in the last 2 months.
- Increases in the likelihood of using **birth control pills** and **other method** as types of birth control in the 2 months prior to the assessment.

Given the small sample size it was difficult to examine the patterns of change for different sample subgroups. We did examine whether there were changes in cigarette, alcohol or drug use among those users with *1+ Mental Health Visits* (n=43), believing that this population would be the most vulnerable with respect to substance use. We found that while rates of usage are higher in this subgroup than in the overall sample, there was not much change in these rates between the Pre and Post assessments. We did observe, though, a slight decline in the percent of users in this subgroup who **used marijuana 1+ times** during the last 30 days from 31.2 to 25.0%.

We also looked at those SBHC HS Users with *1+ Reproductive Preventive visits* (n=72), assuming that we might find the greatest impact on those users who are more likely to be sexually active. In particular we observed in this subgroup:

- A decline in the percentage of users who report having **sexual intercourse in the previous 2 months** from 86.2 to 70.5%. Similarly, among those having sex in the previous 2 months a decline in the percentage with **multiple sexual partners** from 28 to 7.1%.
- A slight decline between Pre and Post in the percent of sexually active students who used a **condom** for birth control from 52 to 44 percent.
- Conversely, substantial increases between Pre and Post in reported use of **birth control pills** (38 to 51%) and **other method** (6 to 23%)

TABLE 5: Overall HS SBHC Users: Comparison of Risky Behavior Indicators Pre vs. Post

MEASURE	SBHC – High School Students (n=162)		
	Pre	Post	P
Outcome: Reduction in Risky Behaviors/Increase in Preventive Behaviors			
30 Day Use (<i>% with 1+ days of use reported below</i>)			
Cigarettes	16.6%	15.9%	
Alcohol	22.8%	24.2%	
Marijuana	15.6%	16.1%	
Other drugs	3.4%	2.0%	
Ever Had Sexual Intercourse	67.3% (107 YES)	71.5% (108 YES)	
Ever been Diagnosed with a STD (<i>of those having sex ever</i>)	5.6%	7.5%	
Had Sexual Intercourse in the last 2 months (<i>of those having sex ever</i>)	76.0% (79 YES)	67.9% (72 YES)	
% with 2+ Different Partners (<i>of those who had sex last 2m</i>)	19.0%	8.4%	
How often use condom during sex in last 2 months (<i>of those who had sex last 2m</i>) (Scale A)	3.42	3.44	
Types of Birth Control Used – last 2 months			
BC pills	36.7%	48.6%	
Withdrawal	10.1%	11.1%	
Condoms	50.6%	51.4%	
Other Method	11.4%	18.1%	
Depo	20.3%	18.1%	
Emergency Contraception	10.1%	13.9%	

Scale A: 1 – never, 2 – rarely, 3 – sometimes, 4 – most of the time, 5 – all of the time