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The Institute for Health, Health Care Policy, and Aging Research

**Evaluation of the Newark School-Based
Youth Services Program
Part II: Report on Clinic Enrollment
and Utilization, Academic Performance,
and Teacher Perceptions**

**Mina Silberberg, Ph.D.
Jonathan Huston-Wong, Psy.M.
Kimberley Fox, M.P.A
Joel C. Cantor, Sc.D.**

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Evaluation of the Newark School-Based Youth Services Program Part II: Report on Health Clinic, School Performance, and Teacher Survey Data

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Joel C. Cantor, Sc.D.

EXECUTIVE SUMMARY

Introduction

In April of 2000, the Center for State Health Policy at Rutgers began a two-stage evaluation of three school-based health clinics in Newark, New Jersey. These clinics operate at the George Washington Carver, Dayton St., and Quitman St. Schools. The clinic program is funded by the Healthcare Foundation of New Jersey and operated by Children's Hospital of New Jersey at Newark Beth Israel Medical Center, with the cooperation of the Newark School District. This report documents the results of the second and final stage of the clinic program evaluation.

Research Questions and Methods

The purposes of the evaluation were to: 1) Establish quantitative measures of clinic clients and services, student health needs, and teacher use of and attitudes towards the clinics. 2) Identify trends, strengths, and concerns. 3) Identify weaknesses in clinic data for self-evaluation and managed care contracting. 4) Explore the impact of a clinic presence on schools. 5) Assess whether clinic impact can be observed in currently available data on academic behavior and performance. 6) Assess the potential of such data for future evaluations.

The following three methods were used to address these topics: 1) Assessment of archived clinic data for the three clinics for the period Fall 1998-Spring 2000. 2) Assessment of standardized test scores and absenteeism rates for the three clinic schools and three matched comparison schools for the same period. 3) Creation, administration, and analysis of a survey of teachers at the three clinic and three comparison schools. The three comparison schools are the Louise A. Spencer, Cleveland, and Miller St. Schools.



Key Findings

The clinics have achieved high levels of use among students, as measured both by parental consent rates and percent of registered students using the clinic. Clinic use has continued to grow; however, more can still be done to fully utilize clinic capacity and enhance clinic-school integration. The clinics appear to be addressing student's key health needs, and the way teachers perceive and handle student's physical and dental problems, as well as the overall health education in the school. Teachers in clinic schools express a high level of confidence in school resources for medical, dental, and social/behavioral health.

We recommend ways to support the clinics' continued growth, particularly collaboration with school staff to identify how clinics and schools can most effectively support each other's work to achieve their common goals. Social/behavioral health is a particular area of concern for teachers, and an area where clinic potential may not be fully realized.

Existing clinic and academic data are inadequate for assessing how the clinics are affecting student health or academic performance. There are a number of significant shortcomings of these data for evaluating student outcomes, and we recommend ways to improve these data. We cannot eliminate the possibility that the clinics have no measurable impact on student health or academic outcomes. Studies of other clinic programs have found few impacts on these types of measures. Moreover, the Newark clinics are relatively new, and it may take time for them to influence student outcomes. The evaluation does provide evidence that the clinics have improved access to care and academic life at the schools:

- The evaluation provides ample evidence of significant health needs at the schools, and the design of the clinics is well matched to these needs.
- By national standards, the clinics have attained very high parental consent rates, and a high proportion of registered students has visited the clinics.
- The clinics are respected by, and inspire confidence among, teachers. Specifically, the clinics seem to have positively affected the way teachers handle students' physical and dental problems; and teacher confidence in overall school resources for dealing with medical, dental, and social/behavioral problems is higher in clinic schools than in comparison schools.

The evaluation also identified areas that should be examined more closely or where improvements may be warranted:

- Attendance and test score data do not reflect an influence of the clinics. As noted, these data, which are drawn from routine school records, may not provide adequate measures of clinic impact.
- The level of clinic activities addressing social and behavioral health problems does not appear to match the substantial teacher concerns about these issues.
- Although the overall volume of visits to clinic providers has risen since the clinics opened, the number of visits per day appears to be leveling off at a volume well below the capacity of the clinics.
- The clinics have a reasonable comprehensive database reflecting student enrollment and utilization, but these data are not adequate for ongoing program evaluation or for contracting with managed care organizations.

Recommendations

Enhancing the Clinic Program

Improve clinic integration into the schools, and revisit clinic activities and staffing:

- Emphasize collaboration among clinic program and on-site staff, school administrators, guidance counselors, and teachers to define the best ways that clinics can serve the schools and that schools can support clinic services. Continue to explore innovative approaches, such as the clinic program's current efforts to provide continuing education credits for teachers.
- Continue efforts to increase teacher awareness of all clinic services.
- Monitor the number of visits made to the clinics over time. Bring stakeholders to the table to discuss trends, daily use rates, and capacity. Assess current staffing model and clinic activities.
- Consider the likelihood for successful collaborative relationships when selecting schools.

Enhancing Clinic Data Collection for Evaluation and Management

Bring stakeholders together to define the most critical data needs and focus efforts on improving data collection for those fields. Specific proposals for improvement of data collection and recording are:

- Add a discharge/transfer date to the archived clinic data for children no longer in the school.
- Add the response option "refused to state" or "not provided" to the insurance status, insurance type, and insurance company fields and emphasize entering a response for each record.
- Consider adding these options to other fields (e.g., student risk factors) as needed.
- Have clinic and program staff review insurance type options and agree on the distinctions among them.
- Consider adding fields to track changes in insurance status and other critical indicators over time.
- Bring clinic and program staff together to review and agree upon the definition of a visit.
- Consider whether clinics should keep track of time spent on other activities - such as case management or classroom-based health education. Assess whether this can be done without excessive burden to staff.
- Consider regular feedback of data to the clinicians and the administrative assistants in report form. This will help them improve services, increase the perceived value of the data, and clarify which data are most important.
- Bring clinic and program staff together periodically to revisit data collection needs and challenges, facilitate problem-solving, and ensure consistency in data collection.

Enhancing Data to Assess Academic Performance

Make changes to the academic data that are collected and compiled:

- Compile existing statistics on student tardiness and leaving school.
- Record and compile reasons why children leave school.
- Monitor changes taking place in student testing and, as these tests develop, assess their utility for providing clinic outcome measures.

- Create tools that provide information about the pathways presumed to connect clinic use to academic behavior and performance, e.g., a teacher survey similar to the one used for this evaluation. Consider use of student survey. When possible, conduct baseline surveys before establishment of a clinic.

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Introduction

In April of 2000, the Rutgers Center for State Health Policy began a two-stage evaluation of three school-based health clinics in Newark, New Jersey. The clinic program was established in 1997 through a partnership between the Healthcare Foundation of New Jersey (the clinic funder), Children's Hospital of New Jersey at Newark Beth Israel Medical Center (part of the Saint Barnabas Healthcare System and the clinic sponsor), and the Newark Public School System. In June of 2000, CSHP presented a report on the first stage of the evaluation - an analysis of stakeholder insights into the implementation of the clinic program and perceptions of program operations, clinic services, and results (Silberberg, Fox, Quinn, & Cantor, 2000). The current report documents the results of the second stage of the evaluation.

This stage of the evaluation had three components: 1) Analysis of clinic enrollment and utilization data for the academic years 1998/1999 and 1999/2000. 2) Assessment of school attendance and standardized test score data for the same years for the three schools with clinics and three matched comparison schools. 3) Results of a confidential survey of teachers on the classroom impact of student health issues and clinic access.

The purposes of the evaluation were the following:

1. Develop quantitative measures of clinic participation and services, student health needs, and teacher use of, and attitudes toward, the clinics.
2. Apply these indicators to identify trends in clinic activities and areas of strength and concern.
3. Identify ways to enhance the utility of the clinic data system for the ongoing assessment and management of clinic operations.



4. Assess the impact of the clinics on how teachers address student health needs and assess the adequacy of school health resources.
5. Explore the potential to use academic behavior and performance data to evaluate the clinics' educational impact.

This section provides background to the current study, and briefly describes the clinics and the schools in which they are located (a more detailed description is provided in Silberberg et al., 2000) as well as the overall research design. The subsequent sections provide the results of the three evaluation components, and include further information on the data and the specific methods employed for each. Finally, we conclude with recommendations for the clinic program, including suggestions for future data collection.

Program Background

In 1997, the Healthcare Foundation of New Jersey, in partnership with the Newark School District and the Saint Barnabas Health Care System, began working to establish health clinics in the Newark schools through the School-Based Youth Services Program. School-based health clinics, increasingly prevalent nationwide, aim to provide comprehensive primary care services to school children. The three Newark clinics originally funded by the Foundation were established in three elementary/middle schools: the George Washington Carver School, the Quitman St. School, and the Dayton St. School. Although the clinic program continues to grow, this report assesses the clinics at the three original schools, where the clinics have had time to establish themselves and for which historical data are available.

Clinic services at the participating Newark schools are free to all students whose parents or guardians have signed a consent form; in this report, we describe those students as "registered" to use the clinics. Each clinic has a full-time pediatric nurse practitioner, social worker, and administrative assistant. The school nurse, while maintaining her traditional duties, is also an integral part of the clinic team, triaging students who need medical care. Mental and dental health services may be accessed directly. The nurse practitioners provide primary and preventive health services—physical exams, follow-up medical care, treatment of minor illnesses, chronic care management, immunizations, and nutritional counseling. Social work services include individual, family, and group counseling and crisis intervention. A dental team from Children's Hospital visits the clinics on a more than half-time basis, providing examinations, x-rays, cleanings, fluoride treatments, and dental sealants. Referrals for

outside care are made in all three clinical areas - medical, social/emotional, and dental - and free follow-up dental care is provided for clinic participants at Beth Israel Medical Center. Clinic participants also receive free prescription medications. In addition, clinic staff provide health education in classes, health fairs, and other venues; each year a dental hygienist makes a 30-minute presentation to every class in each school.

Administrative and clinical support and oversight is provided to the clinics by Children's Hospital through a program director, three physicians, a psychiatrist, and a dentist. In addition, the administrative assistant at the Quitman St. School supervises the assistants at the other two locations, and the school district provides technical assistance with data collection.

The first clinic was opened in February 1998 at the George Washington Carver School, a kindergarten through eighth grade (K-8) school near Beth Israel Medical Center, that includes the Bruce St. School for the Deaf. The second opened at the Quitman St. School in June 1999, although during the 1998/1999 school year the social worker was seeing students and efforts were begun to obtain parental consents. Funding for this clinic is also provided by the Prudential Foundation, which was already supporting community school programs. While the Quitman St. School originally served pre-K-8, it was changed to pre-K-4 for the 1999/2000 school year. The nearby Morton St. School now serves the middle school population (5th through 8th grades), and an arrangement was established in the fall of 1999 for Morton St. students to use the Quitman clinic, primarily for dental and urgent care. Quitman St. also includes the Berliner School for special needs students. Finally, in June 1999, after a partial start-up in the 1998/1999 school year (providing dental care and part-time social work services), a clinic became fully operational at the Dayton St. School, serving K-8.

Overall Evaluation Design

The procedures employed in this study were reviewed and approved by the Rutgers University Institutional Review Board for the Protection of Human Subjects. For the purposes of this evaluation, comparison schools were identified for each of the three clinic schools. Selection was based on similarity to clinic schools on the dimensions of location, grade levels, size, and racial/ethnic composition. Based on the first stage of the evaluation, we understood these contextual factors to be potentially related to student access to health services, health needs, use of health services, and academic performance. Comparison schools fitting our criteria were identified by Rosemarie

Kopacsi, Research Supervisor at the Newark Public Schools Office of Planning, Evaluation, and Testing. The Carver School was matched with the Louise A. Spencer School, the Quitman St. School with the Cleveland School, and the Dayton St. School with the Miller St. School.

The school district provided us with clinic and academic data for the academic years 1998/1999 and 1999/2000. These are the two years in which all three clinics were operational. However, our data analysis is attentive to the fact that only the clinic at George Washington Carver was fully operational in both academic years and had in fact opened in the spring semester 1998. Although we had hoped to contextualize our assessment of the academic data with trend information from a period prior to clinic implementation, changes in standardized testing made the testing data from 1998/1999 and 1999/2000 non-comparable to that from earlier years.

School Clinic Enrollment and Utilization

In this section we analyze data maintained by the school clinics to address the following questions about clinic clients and activities:

1. How many students are registered at the clinics?
2. How does the composition of registered students compare with the school populations? Are any groups underrepresented?
3. What are the health needs of registered children?
 - a. Do they have access to health care in the community?
 - b. What is the prevalence of pre-existing health problems among these children?
4. Of those children registered for the clinics, how many have ever used clinic services?
5. What are the characteristics of children who use the clinics compared to those registered overall? Are needy students using the clinics?
6. How many visits do children make to the clinics, on average?
7. What are the characteristics of frequent clinic users and how do they compare with users overall?
8. What health conditions are treated in the clinics? Are the conditions of frequent users different than those of users overall?

9. What is the volume of services provided by the clinics and individual providers?
10. What are the types of services provided by the clinics?

Background and Methods

All three clinics collect information on a uniform database called School HealthCare ONLINE!!! (SHO!!!), which was designed by David Kaplan for the specific purpose of evaluating school-based health centers (Kaplan, 1995). The data analyzed for this report from 1998/1999 and 1999/2000 were collected through the original SHO!!! system. In 2001, the clinics upgraded from a DOS-based to a Windows-based version of the SHO!!! data system called Clinical Fusion (Kaplan, 1999). Most of the same data continue to be collected in the new database, so recommendations regarding data quality improvement are still valid.

In the SHO!!! database, each of the three clinics collects data on the children enrolled and receiving services as well as the nature of the visits made to each practitioner. The clinics have both an active file and archived data for past years. The analysis presented here is based on the archived data.

Patient information is gathered from an initial parental consent form, which asks the parent or guardian to provide the child's grade, date of birth, gender, medical history including pre-existing conditions, insurance coverage, and the family doctor or other usual source of care. When a child visits the clinic, additional information is gathered including race/ethnicity, risk factors identified by a provider, and how the child was referred to the clinic. Data gathered from registration consent forms may be updated if new information is acquired in the course of discussing the child's condition with the parent. When the record is updated, the new information replaces any existing data, so there are no historical data to assess how information is discovered over time or the source of information.

In addition to information on the clients, the clinic records data on the services provided. For each clinic visit, the database includes the date of the visit, the child's presenting diagnosis and any other diagnoses identified in the course of examination, the procedure performed, the time spent with the patient, medications dispensed or prescribed, referrals made, and follow-up information. In analyzing the data, we found that the time spent with the patient was not uniformly reported and sometimes conflicted

with the time indicated on procedure codes, so we did not analyze this data. Similarly, the data reported on referrals, follow-up and prescriptions, and children's health risks were inconsistently reported and difficult to interpret and thus are not discussed here. In the 2001 update version of the clinic data system—Clinical Fusion—the health risk fields were removed for this same reason.

To make comparisons across schools, we assumed a certain level of consistency in data collection and reporting across clinics. All three clinics use standardized data collection forms. However, data collection may vary among or within schools. For example, one school may rely primarily on the parents filling out the consent form, while another may generally fill the form out with them. Different clinicians may approach visit coding differently. Where possible, we will identify unusual discrepancies across clinics.

Findings: Enrollment and Utilization

How Many Students are Registered in the Clinics?

As reported in our first evaluation, according to clinic staff the rates of parental consent to register children in the clinics are high. As of May 2000, staff reported that the clinics had registered 98% of students at Dayton, 92% of students at Quitman, and 72% of students at Carver. (The Carver clinic staff reported that their registration rates were low because of deficiencies in the school enrollment records resulting from the highly mobile student population.) These are very high registration rates, as compared with rates reported in the literature for other school clinic programs (Crespo and Shaler, 2000; Terwilliger, 1994; Santelli et al., 1996; McCord et al., 1993). The registration rate at the Berliner School, a separate school (for special needs students) within the Quitman facility was much lower (35%); clinic staff reported that this was due to the high rate of turnover in that population. The registration rate of students from the off-site Morton St. School was also significantly lower than that for Quitman, supporting the findings of the first phase evaluation that there was less awareness and use of the clinic by the Morton St. population.

Take-up rates beyond those calculated by the clinics could not be produced with the archived data. Clinic staff estimate clinic take-up rates each month by identifying the number of children registered in that month, subtracting the number of children who transferred out of the school as reported to the school nurse¹, and dividing by the current school enrollment as of the end of the prior month. These monthly estimates are more accurate than take-up estimates that can be derived from the archived clinic data, given

limitations in both the clinic and school enrollment data. School enrollment is reported annually either as of one point in time (e.g., as of October 1999), or on an average monthly basis. In contrast, the archived clinic data represent the cumulative number of children that have ever been registered whether they are currently enrolled in the school or not, since the parental consent which registers the child is only required once for the entire period that the child attends the school. While the clinics regularly remove children from their active file who may have graduated or left the school, the archived data include any child ever registered and do not have a field to indicate that the child has transferred. Thus, the number of children reported as registered in the archived data will consistently be higher than total school enrollment, particularly given the high mobility rates at these schools.

How Do Registered Students Compare with the School Population?

Table 1 and Chart 1 compare the grade-level distribution of children registered in the clinics from 1998-2000 with that of their respective schools for the same period. The Bruce Street and Berliner "schools-within-a-school" do not identify children by grade level but by their special needs, so they were excluded from this analysis.

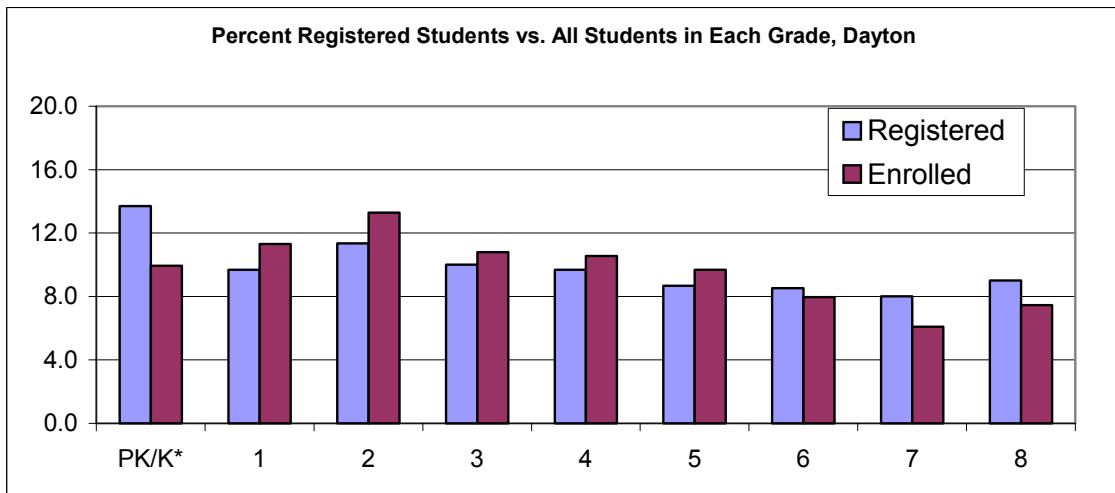
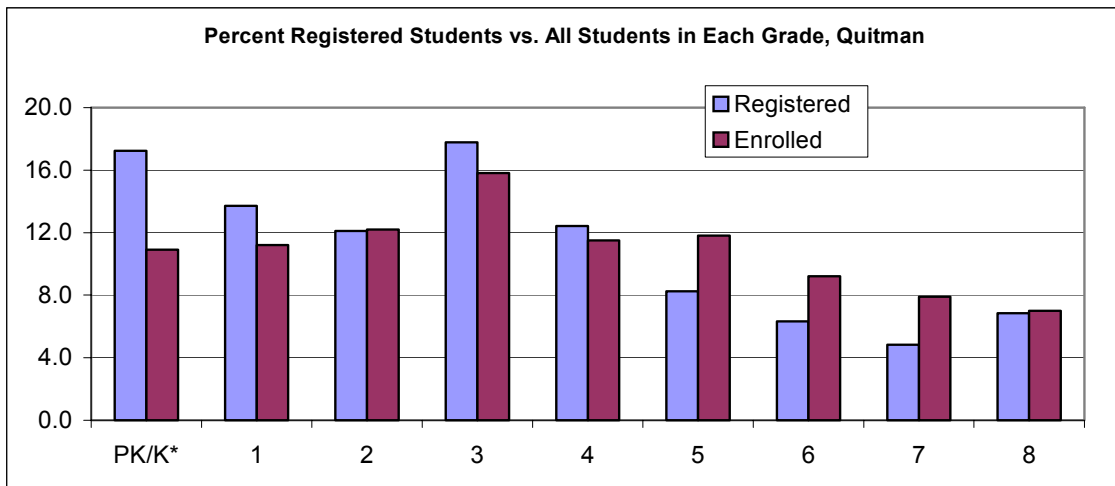
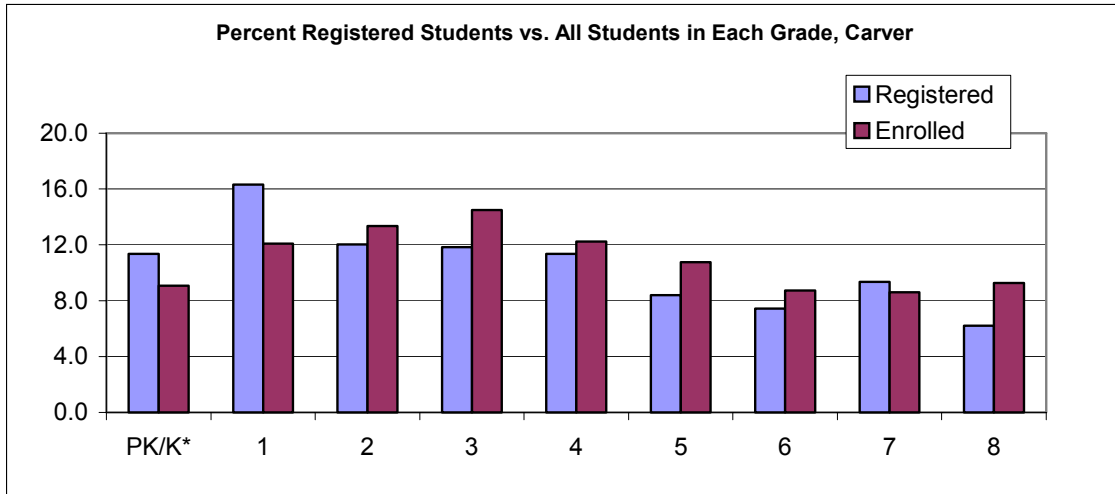
While there are some variations, the grade distribution of children registered in the clinics is comparable to those of the schools, particularly at Dayton. Those differences that exist generally show the clinics to be slightly more successful at registering the youngest children in school. The Quitman clinic has a particularly high percentage of registered children coming from the lower grades and a low percentage from the fifth to seventh grades, which reflects the lower registration rate in the Morton Street School discussed earlier.

The characteristics of children recorded as registered at the clinics are generally comparable to those in the schools they serve.² The vast majority of registrants are Black. However, the proportion of Hispanics registered by the clinics is somewhat lower than the proportion enrolled in the schools, particularly at Dayton. However, as registration rates at Dayton have subsequently risen to virtually 100%, this problem has been addressed. The mix of boys and girls served by all three clinics is fairly comparable to overall school enrollment.

Do Registered Children Have Access to Health Care in the Community?

A child is reported as having a "medical home" if his/her parent identified a primary care doctor that the child regularly sees on the consent form or through subsequent contact with the clinic. The absence of medical home information may reflect an actual lack of access or missing information on the consent form. More than half of the children registered at all three clinics in the first two years had a reported "medical home" (see Table 2). However, there is some variation across clinics. While

Figure 1: Percent Clinic-Registered Students vs. all Students Enrolled in School in Each Grade



*Combined grade levels Pre-Kindergarten and Kindergarten.



nearly two-thirds of the Dayton clinic's registered children had a medical home reported, this was true for only 59.4% of children registered at the Quitman clinic and 50.7% of children registered at Carver. This finding is somewhat surprising. As noted in our first report, Dayton is somewhat isolated from the city of Newark, surrounded by a large golf course and park. According to staff interviews and parent focus groups, few social and medical services are available nearby.

Health insurance is another indicator of access to care. However, as described in our first report, parents do not generally provide insurance information on the consent forms, so these data should be interpreted with caution. We describe our findings here primarily as a basis for discussing enhancement of this aspect of the data collection. The clinic database has several fields that relate to insurance, including whether students have coverage at all, the type of coverage they have and the name of the insurance company. None of the clinics had data reported in the field identifying whether a child had any health insurance at all. Therefore (see Table 2), we describe as "no insurance reported" any child who had no information in the insurance type or name fields. Insurance status for the rest of the students also reflects a combination of the insurance type and name, because there were many cases where the record had an insurance company listed but no insurance type identified.

Table 2: Usual Source of Care and Type of Insurance Among Students Registered at a Clinic

	School					
	Carver (n=1048)		Dayton (n=599)		Quitman (n=934)	
	N	%	N	%	N	%
Reported "Medical Home"	531	50.7	387	64.6	555	59.4
Insurance Status						
No Insurance reported*	733	69.9	427	71.3	481	51.5
Medicaid	0	0.0	47	7.8	0	0.0
Medicaid HMO	136	13.0	0	0.0	0	0.0
Other	179	17.1	125	20.9	453	48.5

*No specific insurance company or type of insurance reported

The majority of children registered in all three clinics had no insurance reported by parents/guardians (Table 2), particularly at Dayton (71.3%) and Carver (69.9%). Our data support the conclusion that many parents are resistant to providing insurance information. Not only are the reported insurance rates extremely low, but, given the large proportion of children at Dayton who had a medical home, one would expect higher rates of insurance coverage.

Even when provided, the validity of "insurance type" information is questionable. The only types of insurance that were entered were Medicaid, Medicaid HMO, HMO, and Other, despite a number of other available codes. In addition, the fact that all children with Medicaid coverage at Dayton are listed as being in traditional Medicaid, all those at Carver are listed as being in a Medicaid HMO, and no child registered at Quitman was reported to have Medicaid is clearly an artifact of reporting or data entry.

How Many Registered Children Had Pre-existing Health Problems Identified by Their Parents and What Were These Conditions?

Most children registered in the clinic did not have a pre-existing condition reported by their parent or guardian (Table 3). Asthma was the most common condition identified, and it varied in prevalence from 3.3% at the Dayton clinic to 6.1% and 6.9% at the Carver and Quitman clinics, respectively. Other conditions identified by parents included anemia, hearing related problems (primarily at Carver due to the inclusion of the Bruce Street school for the deaf), and corrective lenses.

The lack of consistency of this data across clinics suggests that it is not fully reliable. For example, parents/guardians of children at Carver identified many more problems than either Dayton or Quitman. Carver is also the only school that reported children having corrective lenses, although the other schools undoubtedly had some children enrolled who wore glasses.

Of Those Registered, How Many Children Use the Clinic?

Table 4 shows the number of registered children who ever visited any of the clinic practitioners over the two-year period from 1998-2000.³ Most children registered at the clinics made at least one visit over the two-year period. Clinic use is relatively consistent in the Dayton St., George Washington Carver, and Bruce St. schools, where approximately 82% of registrants visited the clinics. Clinic use at the Quitman school was slightly lower, with 74% of registrants visiting the clinic. The usage rates are well within

Table 3: Pre-Existing Conditions/Health Problems Reported by Students at Time of Registration

Condition/Health Problem	School					
	Carver (n=1048)		Dayton (n=599)		Quitman (n=934)	
	Reg. * Children	%	Reg. * Children	%	Reg. * Children	%
Any Condition Reported	159	15.2	27	4.5	84	9.0
Asthma	64	6.1	20	3.3	64	6.9
Anemia	12	1.1	5	0.8	10	1.1
Corrective Lenses	24	2.3	0	0.0	0	0.0
Hearing Aid	22	2.1	0	0.0	0	0.0
Sickle Cell Anemia	4	0.4	0	0.0	4	0.4
Other Blood Disorder	5	0.5	0	0.0	1	0.1
Congenital Health Disease	2	0.2	1	0.2	1	0.1
Hearing Loss	4	0.4	0	0.0	0	0.0
Other Allergies	4	0.4	0	0.0	0	0.0
Heart Problems	2	0.2	0	0.0	1	0.1
Hyperactivity	1	0.1	0	0.0	2	0.2
Other Medical/Emotional Condition	3	0.3	0	0.0	0	0.0
Seizures	3	0.3	0	0.0	0	0.0
Epilepsy	1	0.1	0	0.0	1	0.1
Hearing Problems	2	0.2	0	0.0	0	0.0
Other Mental Health	2	0.2	0	0.0	0	0.0
Cancer	1	0.1	0	0.0	0	0.0
Diabetes	1	0.1	0	0.0	0	0.0
HIV	0	0.0	1	0.2	0	0.0
Other Chronic Illness	1	0.1	0	0.0	0	0.0
Tuberculosis	1	0.1	0	0.0	0	0.0
Total Registered Children	1048	-	599	-	934	-

*Registered at clinic

Table 4: Percentage of Children Using Clinics Among Those Registered

Clinic/School	Registered	Users	Percentage
Carver Clinic*			
Carver School	967	799	82.6
Bruce Street School	81	64	83.1
Dayton Clinic			
Dayton School	599	492	82.1
Quitman Clinic			
Quitman School	746	550	73.8
Morton School	170	80	47.1
Berliner School	18	10	55.6

*School year 1998-1999 also included students registered between January and August 1998.

McCord et al., 1993; Anglin, Naylor and Kaplan, 1996). Mirroring differences in registration rates, the Berliner special needs school has lower use rates than its parent school, Quitman, with only 56% of registrants using the clinic. Not surprisingly, given our findings in the first phase evaluation, the Morton Street school children that were registered at the Quitman clinic have the lowest use rates, with less than half of registrants visiting the clinic.

How Do Children who Use the Clinic Differ from Those That Register?

We compared students who used the clinics to those who registered at the clinics overall to detect any underrepresented populations. The racial composition of clinic users is comparable to that of registered children at all schools. By gender, clinic users are comparable to children registered at all three clinics, except at Dayton, where a greater proportion of girls come in for care.

Children from all grades are using the clinics, but there are some variations across schools. At Dayton and Quitman, children in the lower grades are more likely to use the clinics. These patterns are similar at both schools, suggesting that registration, rather than use, may be the hurdle for Morton students. Carver is more successfully engaging older children to use the clinic services than are the other two schools.

Somewhat surprisingly, children who use the clinics are more likely than children registered overall to have a reported medical home, and are also more likely to be reported as having insurance coverage (Table 5). One possible interpretation of these data is that parents who are savvy about utilizing health care will make use of whatever

Table 5: Percentage of Registered Children Using Clinics by Student Characteristics

	School								
	Carver			Dayton			Quitman		
	Reg.*	Users	Percent	Reg.*	Users	Percent	Reg.*	Users	Percent
Total Children	1048	863	82.3	599	492	82.1	934	640	68.5
Race/Ethnicity									
Black, non-Hispanic	903	745	82.5	442	352	79.6	899	619	68.9
White, non-Hispanic	1	0	0	1	1	100.0	0	0	-
Hispanic	20	18	90.0	153	136	88.9	32	18	56.3
Unknown race	124	0	0	3	3	100.0	0	0	-
Gender									
Female	562	467	83.1	273	232	85.0	445	287	64.5
Male	486	396	81.5	326	260	79.8	489	353	72.2
Grade									
Pre-K/Kindergarten	119	102	85.7	82	71	86.6	161	114	70.8
1	171	151	88.3	58	49	84.5	128	104	81.3
2	126	103	81.7	68	56	82.4	113	95	84.1
3	124	102	82.3	60	49	81.7	166	126	75.9
4	119	97	81.5	58	51	87.9	116	94	81.0
5	88	71	80.7	52	45	86.5	77	36	46.8
6	78	62	79.5	51	43	84.3	59	24	40.7
7	99	86	86.9	48	38	79.2	45	18	40.0
8	65	43	66.2	54	39	72.2	64	25	39.1
Other	59	46	78.0	68	51	75.0	5	4	80.0
Reported "Medical Home"	531	446	84.0	387	331	85.5	555	402	72.4
Insurance Status									
No Insurance reported	733	572	78.0	427	351	82.2	481	265	55.1
Medicaid	0	0	-	47	44	93.6	0	0	-
Medicaid HMO	136	127	93.4	0	0	-	0	0	-
Other	179	164	91.6	125	97	77.6	453	375	82.8

*Registered at clinic

services are available, including encouraging their children to use the clinics. Another possible interpretation is that the clinic actually helps families to locate providers in the community or to apply for insurance. A third interpretation is that this does not reflect an underlying difference between users and nonusers, but rather a reporting problem, i.e., when children use the clinics, clinic staff are given an opportunity to obtain missing data on usual source of care and insurance coverage. Knowing when insurance was obtained, and the date on which the medical home and insurance information were recorded would help in interpreting this finding.⁴

Table 6 shows that those registrants with recorded pre-existing conditions are more likely to use the clinics than registrants overall. Again, these data should be interpreted with caution. They may not represent a difference in health status between clinic users and registrants overall, but rather a higher level of parental engagement or awareness that reflects itself both in clinic use and more complete identification of pre-existing health conditions. However, it is a positive finding that most children who had a condition identified at the time of registration - the majority of whom had asthma - used the clinics at least once.

Table 6: Users of Clinics as Percentage of Students Registered by Pre-Existing Health Condition

	School								
	Carver			Dayton			Quitman		
	Reg.*	Users	Percent	Reg.*	Users	Percent	Reg.*	Users	Percent
Total Children	1048	863	82.3	599	492	82.1	934	640	68.5
Any Condition	159	146	91.8	27	27	100.0	84	83	98.8
Asthma	64	57	89.1	20	20	100.0	64	64	100.0
All other Conditions	95	89	93.7	7	7	100.0	20	19	95.0

*Registered at clinic

How Many Visits Do Children Make to the Clinics?

The average number of clinic visits is 4.4 per clinic user.⁵ Most children who use the clinic have only visited the clinic once or twice since the clinics opened (Table 7). Another quarter of clinic users visited the clinic 3-5 times. The remaining users visited the clinics from 6 to as many as 65 times for one child at the Dayton clinic. In fact, overall the Dayton clinic had a higher proportion of children that used the clinic more than 15 times (7.9%) than the other two clinics (2.3% at Carver and 0.3% at Quitman).

Table 7: Number of Visits per Child Using the Clinic Services

Number of Visits	School					
	Carver (n=863)		Dayton (n=492)		Quitman (n=640)	
	N	%	N	%	N	%
1	265	30.7	156	31.7	240	37.5
2	217	25.1	87	17.7	144	22.5
3	114	13.2	71	14.4	81	12.7
4	80	9.3	47	9.6	54	8.4
5	54	6.3	28	5.7	39	6.1
6	29	3.4	10	2.0	34	5.3
7	21	2.4	15	3.0	10	1.6
8	19	2.2	8	1.6	11	1.7
9	13	1.5	5	1.0	7	1.1
10	7	0.8	8	1.6	7	1.1
11	8	0.9	4	0.8	6	0.9
12	7	0.8	6	1.2	0	0.0
13	3	0.3	5	1.0	2	0.3
14	6	0.7	3	0.6	3	0.5
15 or more	20	2.3	39	7.9	2	0.3
Total Children Using Clinic	863	100.0	492	100.0	640	100.0

Who are the "Frequent Users" and How Do They Compare with Other Children Using the Clinics?

Because we don't know how long students remain in the schools after they register for the clinics, we cannot actually calculate the frequency of clinic use. We can, however, identify students who have used the clinics more times than their cohorts. We have defined these "frequent users" as those with more than five visits. The proportion of frequent users and the number of visits dedicated to these children vary significantly by clinic. At Quitman frequent users represent 13% of children using the clinic and account for 36% of clinic visits compared to 15% of users and 46% of clinic visits at Carver and 20% of users and 64% of visits at Dayton.

Table 8 reveals that, by race and gender, frequent users are similar to all users, except at Quitman, where boys are much more likely to be frequent users than girls, perhaps because the social worker at Quitman is a man. While there are some variations in the grade distribution of frequent users compared to all users across schools, no clear pattern emerges. The average number of diagnoses is approximately the same as for all users.

Frequent users at all three clinics are even more likely than others to have a report of a medical home or insurance coverage. Again, this may indicate that children with more health problems are more likely to have insurance to pay for a regular source of care, that clinic staff had more opportunities to help parents obtain insurance and a medical home for their children, or that they had more opportunities to obtain insurance and medical home data from the parents.

For What Conditions do Children Visit the Clinic? How is This the Same or Different for Frequent Users?

Specific diagnoses and diagnostic categories are recorded in the database at each clinic visit. Table 9 shows the most commonly recorded individual diagnoses and diagnostic for clinic visits overall and for frequent users.

Most visits made to all three clinics are for dental, emotional/mental health, and respiratory conditions (Table 9). However, the proportion of visits dedicated to these three diagnostic categories varies considerably across clinics and by the level of clinic use. While most visits made to the Carver and Quitman clinics are primarily for dental health (37% and 28% respectively), most visits made to Dayton are for emotional issues (46%). Many of the latter are related to school avoidance (20%), which is rarely reported at

Table 8: Percent Frequent Users by User Characteristics

	School								
	Carver			Dayton			Quitman		
	Visits All Users	Visits Frequent Users	Percent	Visits All Users	Visits Frequent users	Percent	Visits All Users	Visits Frequent Users	Percent
Total Children	863	133	15.4	492	103	20.9	640	82	12.8
Race/Ethnicity									
Black, non-Hispanic	745	119	16.0	352	95	27.0	619	80	12.9
White, non-Hispanic	0	0	-	1	0	0.0	0	0	-
Hispanic	18	1	5.6	136	3	2.2	18	2	11.1
Unknown race	0	0	-	3	0	0.0	0	0	-
Gender									
Female	467	78	16.7	232	58	25.0	287	26	9.1
Male	396	55	13.9	260	44	16.9	353	56	15.9
Grade									
Pre-K/ Kindergarten	102	15	14.7	71	5	7.0	114	19	16.7
1	151	21	13.9	49	22	44.9	104	19	18.3
2	103	19	18.4	56	11	19.6	95	15	15.8
3	102	18	17.6	49	21	42.9	126	15	11.9
4	97	23	23.7	51	9	17.6	94	9	9.6
5	71	8	11.3	45	5	11.1	36	1	2.8
6	62	9	14.5	43	11	25.6	24	0	0.0
7	86	9	10.5	38	10	26.3	18	2	11.1
8	43	3	7.0	39	4	10.3	25	2	8.0
Other	46	8	17.4	51	5	9.8	4	0	0.0
Average # of Visits	3.5	10.3	*	4.9	15.1	*	2.9	8.2	*
Avg # of Diagnosis Per Visit	1.2	1.1	*	1.1	1.1	*	1.3	1.1	*
Reported "Medical Home"	446	71	15.9	351	71	20.2	402	59	14.7
Reported Having Insurance	315	83	26.3	141	61	43.3	375	60	16.0

*Not Applicable

Table 9: Conditions Identified for Total Visits and for Visits by Frequent Users

	School								
	Carver			Dayton			Quitman		
	Visits	Visits		Visits	Visits		Visits	Visits	
	All Users	Frequent Users	Percent	All Users	Frequent Users	Percent	All Users	Frequent Users	Percent
Total Visits	3006	1370	45.6	2427	1555	64.1	1858	672	36.2
Common Diagnostic Categories									
Dental	1182	240	20.3	678	177	26.1	619	94	15.2
Emotional	503	412	81.9	1106	1002	90.6	376	197	52.4
Respiratory	390	256	65.6	136	76	55.9	299	171	57.2
Health Supervision	173	64	37.0	152	77	50.7	98	35	35.7
Skin	194	107	55.2	49	24	49.0	122	51	41.8
Injury/Poisoning	135	75	55.6	61	32	52.5	56	16	28.6
Ear	104	65	62.5	45	30	66.7	65	43	66.2
Eye	147	79	53.7	14	3	21.4	47	14	29.8
Infection	74	33	44.6	29	16	55.2	90	37	41.1
Symptoms	83	37	44.6	38	20	52.6	48	23	47.9
Other Diagnostic Categories	56	27	48.2	36	22	61.1	52	16	30.8
Congenital Abnormality	0	0	-	65	65	100.0	0	0	-
Gastrointestinal	33	21	63.6	3	2	66.7	12	3	25.0
Specific Diagnoses									
Dental Diagnoses									
Dental Exam	527	84	15.9	374	96	25.7	566	84	14.8
Dental Caries	636	153	24.1	304	80	26.3	154	41	26.6
Disease of Teeth and Gums	270	56	20.7	2	1	50.0	59	4	6.8
Medical Diagnoses									
Asthma	165	139	84.2	44	33	75.0	115	94	81.7
Acute Upper Respiratory Infection	69	30	43.5	51	25	49.0	128	67	52.3
Health Exam	96	23	24.0	118	1	0.8	1	1	100.0
Other Viral Infection	57	28	49.1	26	14	53.8	58	22	37.9
Physical Exam - Follow-up	12	7	58.3	114	57	50.0	0	0	-
Otitis Media, Acute	55	40	72.7	26	18	69.2	40	27	67.5
Superficial Injury/Contusion	55	36	65.5	16	10	62.5	24	6	25.0
Conjunctivitis	59	34	57.6	1	1	100.0	15	6	40.0
Sinusitis, Acute	57	35	61.4	2	2	100.0	8	5	62.5
Congenital Anomaly	0	0	-	65	65	100.0	0	0	-
Social Work Diagnoses									
Parent-Child Problem	312	268	85.9	353	339	96.0	229	127	55.5
Stress Psychological	31	23	74.2	166	127	76.5	230	9	3.9
School Avoidance	17	6	35.3	339	311	91.7	52	2	3.8
Non-Specific Depression	98	81	82.7	119	97	81.5	2	1	50.0
Emotional Disturbance	38	29	76.3	84	62	73.8	7	4	57.1
ADD – Hyperactivity	2	2	100.0	89	82	92.1	24	21	87.5
Oppositional Defiant Disorder	0	0	-	96	77	80.2	1	1	100.0

the other clinics. In our first evaluation report, some respondents indicated that the clinics had been inappropriately used to address school disciplinary issues. The high incidence of school avoidance at Dayton may reflect this problem and may indicate that the problem is more severe there than at the other schools. Alternatively, the varying incidence of this diagnosis may simply reflect a difference in understanding or use of the diagnostic codes among the three schools.

As might be expected, the visits made by children who are frequent clinic users are much more likely to be for emotional problems than visits made overall, as addressing emotional health issues generally requires multiple visits. This is particularly true at the Dayton clinic, with more than two-thirds of visits by frequent users relating to mental health. The Dayton clinic provides more group counseling than the other schools, making it possible to serve larger numbers of students for mental health needs.

Approximately one quarter of visits made by frequent users at Quitman and Carver are for respiratory conditions, most commonly asthma, suggesting that these clinics are providing ongoing maintenance care for this chronic illness.

What is the Volume of Service Provided by Clinic and Provider?

Table 10 and Figure 2 demonstrate that, although visits to nurse practitioners and social workers are still low as of spring 2000, the number of visits to the clinics has increased over time. With approximately 18 school days in an average month, an average of 16 visits per day were reported to all providers at each clinic (nurse practitioner, social worker, and dentists) by spring 2000. Nurse practitioners provided an average of about 8 visits per day, whereas social workers provided approximately 4 daily.

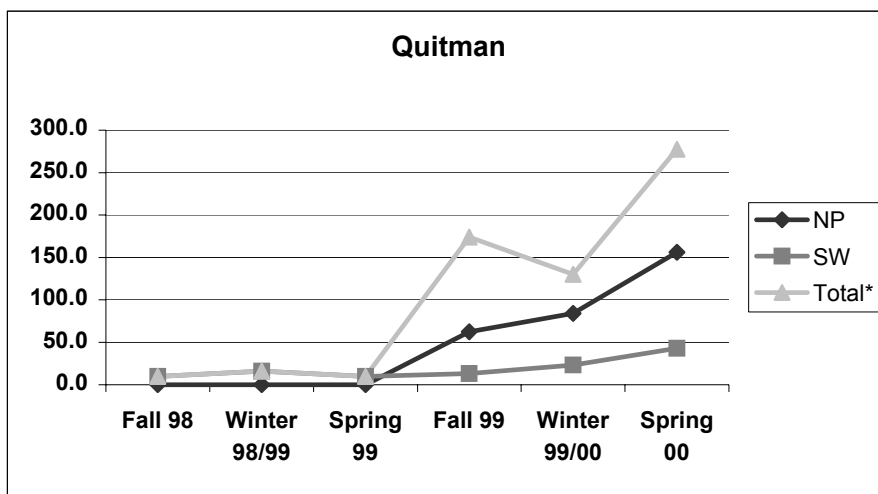
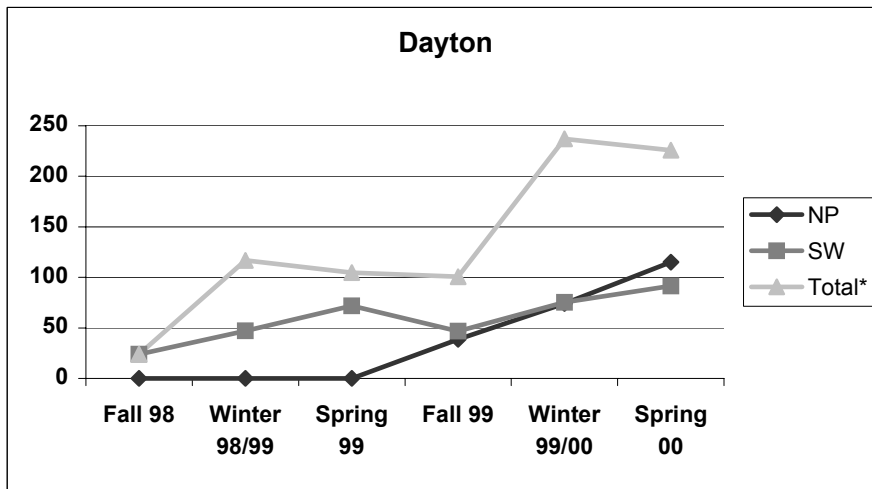
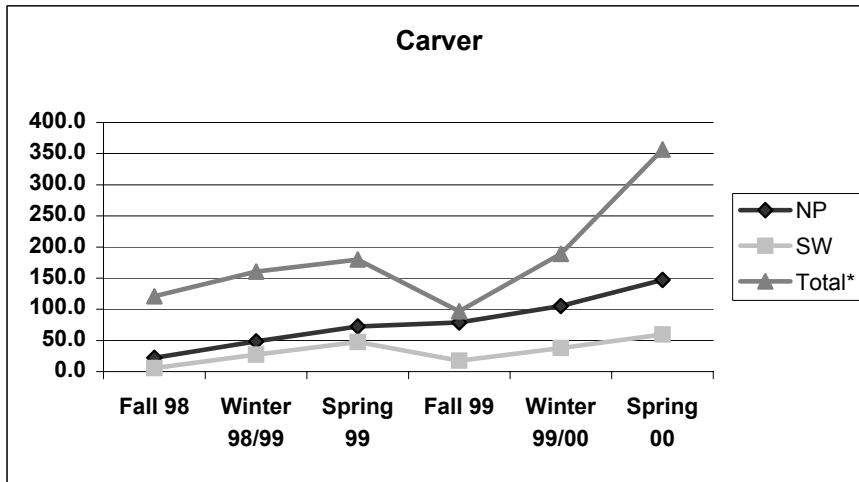
Table 10: Average Number of Visits to Clinic per Month by Season, School, and Provider Type

Season	School								
	Carver			Dayton			Quitman		
	NP	SW	Dent.	NP	SW	Dent.	NP	SW	Dent.
Fall 98	22.0	5.3	93.7	*	24.0	0.0	*	9.7	*
Winter 98/99	48.7	27.0	85.0	*	47.0	69.7	*	16.0	*
Spring 99	72.3	47.3	60.3	*	71.7	33.0	*	9.7	*
Fall 99	79.0	17.7	0.0	38.7	46.7	15.3	62.3	13.0	98.7
Winter 99/00	105.0	37.7	46.7	74.0	75.3	87.7	84.0	23.3	22.7
Spring 00	147.3	59.7	149.7	115.0	91.3	19.3	156.0	43.0	78.7

*Not applicable

Note: NP- Nurse Practitioner; SW- Social Worker; Dent.- Dentist

Figure 2: Number of Visits to Clinics each Quarter



*Total represents the number of nurse practitioner, social work, and dental visits combined. Dental visits have not been displayed separately, as check-ups (the bulk of dental care) are scheduled within specific blocks of time for each school; therefore, dental visits will always show large fluctuations by season.



In all three schools, the average monthly visits have grown considerably over time, particularly for nurse practitioners. The number of nurse practitioner visits at Carver grew more than fivefold between fall 1998 and spring 2000. Nurse practitioner visit volumes at Quitman and Dayton over their shorter period of operations show growth trends similar to Carver's, increasing by 150-200% in the first year.

The average number of clients seen and visits made by the social workers has increased at a rate even faster than that for nurse practitioners, but the number of daily visits is still relatively low as of spring 2000, averaging 2.4 visits per day at Quitman, 3.3 visits at Carver, and 5.1 visits per day at Dayton. Again, Dayton's higher rates are likely due to the prevalence there of group counseling. The steady growth of visits made to nurse practitioners and social workers suggests that the clinics continued to be in start-up phase as of spring 2000. However, the data currently reported by the clinics for 2000-2001 suggest that growth may have tapered off; this requires further investigation and is outside the scope of this report.

Dental services show a more sporadic utilization pattern. Teams of dentists from Newark Beth Israel Medical Center visit the schools every six months to provide children with exams/cleanings. Thus, dentist visits are concentrated in two or three months of the year.

Given that the George Washington Carver and Quitman/Morton populations are twice the size of Dayton's, one would assume that the number of visits would be higher at the first two schools. While the number of nurse practitioner visits confirms this expectation, social worker visits are actually higher at Dayton. In the spring of 2000, the Quitman nurse practitioner averaged approximately the same number of visits as at Carver - 8.7 and 8.2 visits per day, respectively. In contrast, the nurse practitioner visits at Dayton averaged 6.4 visits per day.

What Types of Procedures are Conducted at the Clinics?

Each visit record at the clinics included a procedure code. This information would be essential for billing purposes. However, interpreting the data is difficult because the procedures fall into very general categories and the distinctions among these categories are unclear. For example, all dentist visits fell under the category "Office visits-new." This does not provide any details on specific procedures performed, such as teeth cleaning, examinations, or dental sealants; furthermore, although all of these dental visits are preventive, they are not coded as such.

As expected, the main services provided by social workers are individual and group counseling (Table 11). While all clinics conduct some group counseling, more than a third of Dayton's social work visits are for group counseling. This may reflect differences either in the needs of the student population or in clinicians' practice patterns.

Table 11: Nurse Practitioner and Social Worker Clinic Visits by Procedure

	School					
	Carver		Dayton		Quitman	
	NP	SW	NP	SW	NP	SW
Procedure						
Immunizations	43	0	12	0	76	0
Preventive Medicine - new	48	0	4	0	119	0
Preventive Medicine - established	373	1	143	0	0	0
Laboratory Tests	6	0	8	0	164	0
Office Visit - new	1170	4	505	5	755	11
Office Visit -established	5	0	1	2	0	0
Social Work						
Individual Counseling	0	448	13	608	10	272
Group Counseling	0	58	4	405	0	49
Other	4	10	9	55	0	14

Note: NP- Nurse Practitioner; SW- Social Worker

Academic Performance

Academic data were assessed for clinic and non-clinic schools in order to answer three questions:

1. Are the clinics having a measurable impact on academic behavior?
2. Are the clinics having a measurable impact on academic performance?
3. Are currently available data adequate for answering these questions?

Background and Methods

As described in the first evaluation report, many stakeholders speculated that the clinics improve academic behaviors and performance as well as health status. The academic behavior and performance data available for this evaluation were, respectively, school attendance rates and standardized test scores. These were provided by Rosemarie

Kopacsi at the Newark School District for the clinic and comparison schools for the years 1998/1999 and 1999/2000.⁶

Attendance data represent the average attendance rate for children in each grade in each school. These rates are based on school attendance records documenting students' arrival each school day. Standardized testing data were the Elementary School Proficiency Assessment (ESPA), administered in the fourth grade; the Grade Eight Proficiency Assessment (GEPA); and the Stanford 9, used for the second, third, fifth, sixth, and seventh grades. All of these provide scores for both language arts and mathematics, and we were given the percent of students scoring at or above proficiency/grade level thresholds.

We anticipated that we were unlikely to find a clinic effect in the academic data because the clinic had been in place only a short time.⁷ Thus, this analysis should be seen more as an opportunity to learn about the strengths and weaknesses of the academic data than it is to assess current trends.

Findings: Academic Performance

We found no notable changes in attendance rates and no patterns suggesting better performance on this dimension in the clinic schools than in schools without clinics. In retrospect, this finding is neither surprising nor alarming. Other factors besides the presence of a school clinic may have had large influences on attendance. For example, housing projects near the Quitman St. and Morton St. schools were being torn down, creating unstable home situations for children in that neighborhood. In addition, there are intrinsic difficulties with using attendance rates to measure the impact of the clinics. We had particularly expected to see clinics boosting attendance by preventing students from leaving school who become ill or are injured during the day. However, attendance records reflect arrival at school, and "maintained attendance" or averted mid-day absenteeism is therefore not reflected in attendance rates. Similarly, tardiness, which can be a symptom of emotional difficulties, might be reduced through the clinic's behavioral health services. However, tardy students are usually recorded as in attendance, and tardiness reports are included in students' individual files but not aggregated at the school level.

We believe it to be too early to see any changes in test scores as a result of the clinics' presence, and our expectations are borne out in the data. However, there appear to be larger problems in using these scores as an outcome measure. Many teachers and

administrators are highly critical of the tests, noting that some do not correspond to school curricula and that tests in general provide a measure of student performance based only on one assessment on only one day. Indeed scores were highly variable from year to year and grade to grade and demonstrated no consistent patterns. Furthermore, frequent changes are made in the tests, making it difficult or impossible to interpret time trends. Testing before the 1998/1999 school years is not comparable to testing beginning that year. Finally, in addition to the clinics opening, the schools are undergoing other major changes that may affect test scores. In particular, Newark has embarked on a school reform process, which is likely to have a more direct impact on test scores than clinic presence.

Teacher Perceptions

The third component of the evaluation is a survey of teachers in the three clinic schools and their matched comparison schools. The survey provides information on five domains, the first three of which enable comparisons between clinic and non-clinic schools:

- Student health needs
- Teacher strategies for addressing health issues
- Teacher perceptions of the adequacy of health resources at school
- Teacher knowledge of clinic services
- Perspectives on possible changes to clinics

Background and Methods

Two written questionnaires were distributed to teachers—one to teachers from schools whose students had access to a school-based health center (i.e., clinic survey) and the other to teachers from the matched comparison schools without clinics (i.e., non-clinic survey). The questionnaires are provided in Appendices A and B. In designing the teacher survey, we considered the findings of the first evaluation, particularly the responses of teachers who participated in focus groups. Draft questionnaires were reviewed by clinic staff and school administrators. We distributed the surveys through teacher mailboxes at the schools with an introductory letter explaining the purpose of the survey and addressing the issue of informed consent, and a stamped, addressed return envelope. The introductory letter requested that teachers complete the survey and return it to the authors within one week. After this period, we sent a second letter reminding

teachers to complete the survey and asking that they do so within another one-week period, and provided an additional copy of the survey. To further enhance return rates, we subsequently distributed a reminder bulletin asking teachers to complete the survey.

Findings: Teacher Perceptions

Return Rate

We distributed 368 teacher surveys overall (i.e., clinic and non-clinic versions). Sixty-eight teachers returned surveys, yielding an overall response rate of 18.5%. The response rate for clinic teachers was 22% (40 returns out of 186 clinic surveys distributed). A smaller proportion of non-clinic teachers responded, yielding a 15% return rate (28 returns out of 182 non-clinic surveys distributed).

Teacher Characteristics

Clinic and non-clinic groups were similar in terms of sex of respondent. More female than male teachers responded, with females constituting 91% of the clinic group and two thirds of the non-clinic group. The clinic and non-clinic groups featured slightly different racial/ethnic characteristics. Approximately 40% of clinic respondents are Black and 51% White, and the non-clinic group is 44% Black and 35% White, with the remainder reporting that they were of Latino/Hispanic or "other" race/ethnicity. One-fifth of clinic respondents and almost one-third of non-clinic respondents indicated that they reside within the Newark school district.

Both groups of respondents included teachers who work with students from all grade levels ranging from pre-kindergarten to eighth grade. Similarly, all types of teaching responsibilities (i.e., regular education, special education, physical education, music/art education and bilingual education) were represented among respondents overall; as indicated by Table 12, respondents' teaching responsibilities differed slightly for clinic and non-clinic respondents. The number of students for which respondents were responsible or with whom they had regular contact ranged from six to nearly a thousand; most frequently, respondents' teaching rosters were in the range of fifteen to twenty students. Clinic and non-clinic teachers differed slightly in terms of total teaching experience, but they more closely resemble each other with regard to the number of years teaching at their respective schools, which ranged from one-half to 34 years. Most teachers had been at their current school for fewer than five years.

Student Health Status

We inquired about the health needs of respondents' students, listing nine types of health conditions and asking teachers at both the clinic and non-clinic schools to report the number of children in their classes with each of the conditions. We also inquired about the percentage of students in the respondents' teaching rosters who use medication on a regular basis.

Table 12: Clinic and Non-clinic Respondents' Teaching Experience and Responsibilities

Teaching Responsibility	Clinic School (Percent)	Non-clinic School (Percent)
Regular Education	74	52
Special Education (self-contained classroom)	3	22
Physical Education	5	9
Bilingual Education/ESL	0	9
Music/Art	5	0
Other	10	4
Number of Years of Teaching Experience	Clinic School (Percent)	Non-clinic School (Percent)
0 to 5 years	31	26
6 to 10 years	14	9
11 to 15 years	8	13
16 to 20 years	3	22
21+ years	42	26

Table 13 presents the prevalence of the health conditions among students of clinic and non-clinic teachers and overall. Teachers from both clinic and non-clinic groups reported that sizable proportions of their students contend with a variety of health problems. The three most commonly reported conditions were poor hygiene, behavioral/emotional disorders and asthma, with between 56 and 87 students per 1000 reported to have each of these conditions. Across the behavioral and medical conditions, clinic and non-clinic prevalence differed consistently, with teachers at clinic schools reporting higher prevalence levels, although only the differences for asthma and other chronic conditions were statistically significant at the .10 level. These findings

suggest that teachers in the clinic schools have to deal with a higher burden of student health problems than teachers at the non-clinic schools. The possibility remains, however, that underlying prevalence of health conditions does not differ between the groups of schools, but that the clinics have raised teacher awareness of student health problems, which would be a positive outcome of the clinic program.⁸

Table 13: Prevalence of Health Conditions Among Students (Per 1,000 Students)

Health Condition	Total (n = 67)	Clinic Schools (n = 39)	Non-clinic Schools (n = 28)
Asthma	56	70*	27
Other Serious Chronic Illness	5	7*	1
Less Serious Chronic Illness	8	9*	4
Behavioral/Emotional Problems	62	64	59
Special Education Classification	48	59	27
Physical Disability	1	1	1
Poor Hygiene	87	117	28
Dental Problems	14	15	13
Other Illness	21	29	4

* Significantly different compared to non-clinic schools at $p < .10$

Incidence of Health Episodes

We asked teachers how often since the beginning of the 2000-2001 school year a student in class had health-related problems requiring immediate attention. Specifically, we asked about responses to recent episodes of asthma attacks, other illnesses, injuries, behavioral disruption or emotional upset and dental problems.

As can be seen in Table 14, incidence of health episodes is quite high at the schools. Behavioral and emotional conditions stand out as giving rise to the largest number of serious episodes at school among the conditions we asked about. Teachers

**Table 14: Incidence of Classroom Health Episodes this School Year
(Per 1,000 students)**

Health Issue	Total (n = 67)	Clinic Schools (n = 39)	Non-clinic Schools (n = 28)
Asthma	11	11	12
Other Illness	30	31	28
Injury	21	23	17
Behavioral/Emotional Upset	402	419	368
Dental Problem	11	15**	3

** Significantly different compared to non-clinic schools at $p < .05$

reported an incidence of 402 behavioral episodes per 1,000 students overall. Unlike the underlying prevalence of health conditions which is higher at clinic schools, the number of health episodes did not differ between clinic and non-clinic schools. It may be that the better management of chronic conditions such as asthma at the clinic schools has reduced the number of acute exacerbations with which teachers must cope. Dental care stands out as an exception to this pattern. While the underlying prevalence of dental conditions does not differ between clinic and non-clinic schools, the incidence of dental episodes is higher at clinic schools. Perhaps the availability of clinic dental care resources has encouraged teachers to see dental problems as treatable episodes.

Teacher Responses to Classroom Health Episodes and Outcomes

We hypothesized that the clinics might influence the way that teachers handle classroom-disrupting episodes, and the data seem to bear this out. The survey asked respondents to recall the most recent health incidents requiring immediate attention (i.e., asthma attack, other illness, student injury, behavioral episode and dental problem) and to indicate their responses to the incidents. Table 15 summarizes the findings. First, based on the large percentages for each response, teachers at non-clinic schools on average used more approaches per episode than teachers at clinic schools. Second, and despite this first finding, with respect to every type of health incident except behavioral episodes, teachers at clinic schools were more likely than non-clinic school teachers to

Table 15: Teacher Responses to Classroom Health Episodes

Teacher Response	Percent Overall (n = 67)	Percent Clinic Schools (n = 39)	Percent Non-clinic Schools (n = 28)
Asthma Episodes			
Allowed student to handle situation him- or herself	32	13 ***	57
Addressed problem within classroom directly with student	22	8 **	43
Sent student to principal's office	27	5 ***	57
Sent student to other staff	28	8 ***	57
Sent student to school nurse/clinic	30	41 *	14
Other action	24	8 ***	46
Episodes Related to Other Illnesses			
Allowed student to handle situation him- or herself	30	8 ***	61
Addressed problem within classroom directly with student	33	15 **	57
Sent student to principal's office	27	5 ***	57
Sent student to other staff	31	10 ***	61
Sent student to school nurse/clinic	36	54 ***	11
Other action	25	8 ***	50
Injury-related Episodes			
Allowed student to handle situation him- or herself	30	5 ***	64
Addressed problem within classroom directly with student	30	5 ***	64
Sent student to principal's office	30	5 ***	64
Sent student to other staff	28	5 ***	61
Sent student to school nurse/clinic	30	49 ***	4
Other action	28	5 ***	61
Episodes Related to Disruptive Behavior or Emotional Upset			
Allowed student to handle situation him- or herself	46	23 ***	79
Addressed problem within classroom directly with student	52	74 ***	21
Sent student to principal's office	45	39	54

* Significantly different from non-clinic group at $p < .05$.

** Significantly different from non-clinic group at $p < .01$.

*** Significantly different from non-clinic group at $p < .001$.

send children to the school nurse/clinic.⁹ The presence of the clinics appears to have dramatically affected how teachers handle physical health and dental problems.

This Pattern is Reversed for Behavioral Episodes

For recent behavioral episodes the most common teacher response was something other than sending the student to the school nurse or clinic (only 10% of clinic and 45% of non-clinic respondents did so). Instead, teachers most often addressed the problem within the classroom directly with the upset student. It is unclear as to why teachers at clinic schools would be less likely to use the nurse/clinic, or even whether this is a "desirable" or "undesirable" outcome. More needs to be known about why teachers make the choices that they do.

We also asked for the outcomes of these episodes, e.g., student remained in classroom with no further problems, student remained in classroom with further problems, student went home in the middle of the day. Despite the differences in how teachers handled the incidents, there were no measurable differences in their outcomes.

Perceived Quality of School Health-Related Resources.

To obtain an understanding of teachers' confidence in their schools' health services, we asked teachers to rate school resources for addressing student physical, behavioral/emotional and dental health problems. Teachers responded to questions about the adequacy of resources on a six-point Likert scale in which 1 = "Poor" and 6 = "Excellent". Table 16 presents respondents' average ratings of their schools' student health resources. Teachers at clinic schools reported higher confidence in school health

Table 16: Teacher Ratings of School Services Available for Addressing Student Health Issues

Student Health Issues	Teacher Ratings		
	Overall	Clinic Schools	Non-clinic Schools
Physical-health-related issues and problems	5.1	5.4 **	4.6
Emotional and behavioral health-related issues and problems	3.7	3.9	3.4
Dental health-related issues and problems	4.4	5.2 ***	3.0

Note: mean scores based on a 6-point Likert scale in which 1= "poor" and 6 = "excellent"

** Significantly different from non-clinic schools at p<.05.

*** Significantly different from non-clinic schools at p<.01.

resources across the three domains, with the largest difference reported for dental services. Overall, teachers reported the highest levels of confidence in school resources for addressing physical health needs of students, and clinic teachers expressed more confidence in their schools' services (average rating = 5.4) than non-clinic teachers (average rating = 4.6). Teachers in clinic schools rated resources for dealing with student dental problems nearly as highly as resources for physical health needs (average rating = 5.2) while non-clinic teachers rated dental resources much lower (average rating = 3.0). For both clinic and non-clinic groups, confidence in services targeting behavioral and emotional difficulties was markedly lower, with clinic teachers averaging only 3.9 in their ratings of behavioral health services and non-clinic teachers averaging 3.4.

Additional Services Provided by School Health Professionals

School health professionals are available for services beyond direct clinical care. The survey gauged the extent to which teachers tap the school nurses or the clinics for advice about student health education or their own personal health needs. Table 17 summarizes the responses to these questions. Many teachers in both clinic and non-clinic schools indicated that their relationship with school staff providing health services extends beyond getting direct care for their pupils. Teachers at the clinic schools were more likely to ask school health staff to make presentations to students than teachers at non-clinic schools. In fact, while differences for other individual items were not significant, there appears to be a general pattern of greater use of these services by clinic school teachers. Notably, clinic school teachers do not seem to be substituting use of the

Table 17: Additional Use of School Health Services by Respondents

Clinic Purposes	Clinic Schools			Non-clinic Schools
	Use Nurse	Use Clinic	Use Nurse and Clinic	Use Nurse
To obtain information to convey to students	59%	62%	69%	43%
To obtain health educational materials	49%	54%	64%	39%
To ask school health staff to make presentation to students	39%*	44%	56%**	18%
For other purpose	8%	10%	14%	11%
To obtain advice/information about teacher's own health	56%	33%	56%	50%

* Denotes statistically significant difference in comparison with non-clinic use of nurse at $p < .10$

** Denotes statistically significant difference in comparison with non-clinic use of nurse at $p < .05$

school nurse with use of clinic staff; rather they are at least as likely as teachers in non-clinic schools to solicit the nurse's help, and are using clinic staff help in addition.

Knowledge and Perceptions About the School Clinics

We asked teachers in the clinic schools a series of questions about teacher knowledge and perceptions of the clinics. To examine the extent to which the teachers were aware of the breadth of preventive, clinical, consultative and referral services offered by the clinics within their schools, we asked them to rate the awareness of their school's faculty about 16 services. Specifically, they were asked whether few, some or most teachers were aware of the services.¹⁰

Table 18 presents average ratings for awareness of clinic services in descending order (i.e. mean ratings on a three point scale: 1=few teachers aware, 2=some, 3=many). Five of these services—psychiatric consultation, summer and after-school hours, health classes and fairs and prescriptions—averaged ratings less than two. These are ancillary clinic features. The most well known services are basic clinic services, including

Table 18. Clinic Teachers’ Ratings of Colleagues’ Familiarity with School Clinic Services

Service Description	Average Rating*
Individual Counseling	3.0
Check-ups	2.8
Diagnosis/Treatment of Sick/Injured Students	2.7
Dental Exams/Cleanings	2.7
Immunizations	2.5
Referrals to Outside Services	2.5
Dental X-Rays	2.4
Consultation with Visiting Physician	2.3
Individual/Group Health Education	2.2
Family Counseling	2.1
Group Counseling	2.0
Prescription Services	1.9
Health Education Classes/Fairs	1.9
After-School Hours	1.9
Summer Hours	1.8
Consultation with Psychiatrist	1.8

*1 = Few, 2 = Some, 3 = Most



individual counseling, check-ups, diagnosis and treatment, dental services, immunizations and referrals to outside services.

We also assessed clinic teachers' perceptions of the clinics in their schools by asking them to rate the extent to which they agree (1 = "Strongly Disagree" to 6 = "Strongly Agree") with 17 evaluative statements. Overall, teachers' assessments of clinic services are generally positive. Table 19 lists these statements and their respective average ratings, grouped according to whether the statements reflect clinic outcomes or process. Among the outcome statements, teachers agree that the clinics provide access to needed services and are improving physical and dental health; there is moderate agreement that the clinics help with emotional and behavioral difficulties or contribute to improved attendance and academic readiness. Teachers rate the clinic staff knowledge, confidentiality and respectfulness very highly; dimensions of communication and interaction are rated nearly as high. There was only moderate agreement on the efficacy of clinic coordination with the Child Study Team. Teachers were also asked about three specific negative outcomes of the clinics - time out of class to attend the clinics, waiting times in the clinics, and students using the clinic as an excuse to avoid class. For these questions, lower scores indicate more favorable ratings. These items demonstrate some

Table 19: Clinic Teachers' Ratings of School Clinics

Outcome-related Statements	Average Rating*
Kids receive important services from the clinic that they otherwise would not get.	5.4
The clinic services are improving my students' dental health	5.0
The clinic services are improving my students' physical health.	4.8
The clinic services are helping my students with emotional and behavioral difficulties.	4.3
The school clinic services contribute to improving my students' attendance at school.	4.2
The school clinic services contribute to my students' readiness to learn.	4.0
Process-related Statements	
Negative Evaluative Statements*	
Kids using the clinic during class miss important work/information.	3.5
Kids using the clinic spend too much time waiting for services.	3.7
Kids use the clinic to avoid class.	4.3
Positive Evaluative Statements - Teacher-focused	
School clinic staff are responsive to my feedback.	5.1
The school clinic is helpful to teachers.	4.8

* 1 = Strongly Disagree — 6 = Strongly Agree

concern about students missing class time because of clinic use, particularly purposeful class avoidance.

Teacher Suggestions for Clinic Improvements

Based on the findings of the first phase of the evaluation, the survey asked clinic teachers to rate each of several possible changes to the existing school clinic programs (1 = "Bad Idea" to 6 = "Good Idea"). The results of these ratings, summarized in Table 20, suggest that teachers are supportive, to varying degrees, of each of these changes. Respondents most strongly endorsed the notion of increasing clinics' communication with teachers (average rating = 5.5). Respondents were least likely to agree that the school clinics should treat neighborhood citizens or family members of students or be open on the weekend, but there was still moderate agreement with these ideas.

Teachers were also asked if their school clinics should offer a broader range of services, and 58% of teachers indicated such an interest. Teachers seemed particularly interested in additional ways of targeting behavioral/emotional difficulties, such as augmenting counseling services or providing consultation with teachers on behavioral health.

Table 20: Clinic Teachers' Ratings for Prospective Changes to School Clinics

Change	Average Rating*
Increase communications with teachers (e.g., via newsletter)	5.5
Stay open more after-school hours.	4.7
Offer more summer services.	4.7
Hold more summer hours.	4.6
Treat students' siblings who are not students at the school.	4.1
Treat other family members of students.	4.0
Hold some weekend hours.	4.0

* 1 = "Bad Idea" to 6 = "Good Idea"

Desire for Clinics at the Non-Clinic Schools

Finally, we asked non-clinic teachers whether they had ever heard of health clinics housed within the Newark school system and whether they would like to see such a clinic at their school (a brief description of the clinics was provided). Sixty-five percent

of respondents indicated that they had not heard of the Newark school clinics. However, a large majority of the non-clinic school respondents, 83%, said they would like to see a clinic located at their school.

Conclusions and Recommendations

The clinics have achieved high penetration among students, as measured by both consent rates and percent of registered students using the clinic. Clinic use has continued to grow; however, more can still be done to fully utilize clinic capacity and enhance clinic-school integration. The clinics are addressing key student health needs and are having measurable effects on teacher perceptions and handling of student physical and dental problems, school health education, and teacher confidence in school resources for medical, dental, and social/behavioral health.

Other effects were not yet measurable through the methods utilized here. This is not surprising since the clinics are still in a growth phase. Furthermore, existing school district data provide poor indicators of academic impact. We therefore recommend alternative data sources. Clinic data also have deficiencies for self-evaluation and potential managed care contracting. Recommendations are made here for their enhancement. Finally, we recommend ways to support the clinics' continued growth, particularly collaboration with school staff to identify how clinics and schools can most effectively support each other's work to achieve their common goals. Social/behavioral health is a particular area of concern for teachers, and an area where clinic potential may not be fully realized.

Clinic Operations and Impact

School Health Needs

- Teachers face significant student health problems that can impact the classroom.
- Behavioral/emotional health issues are perceived as an important problem at schools with and without clinics. At both clinic and non-clinic schools, teachers exhibited less confidence in emotional/behavioral health resources than in other resources.

Registration and Use of Clinics

- The clinics have attained very high registration rates by national standards and most registrants have used the clinics at least once; the user rates (number of users as a proportion of registrants) are well within the mainstream.
- In most respects, the clinics are drawing registrants effectively from all segments of the school population, and users effectively from all segments of the registered population.
- Use of the clinic services may be affected by the nature and practices of the personnel, e.g., male use rates are high at Quitman where there is a male social worker, and use of social/emotional health services is high at Dayton, where group counseling is employed heavily.
- Dominant clinic activities (emotional/behavioral health, treatment of respiratory conditions, dental care) match important student needs as measured by student risk factor data collected at the time of registration and the teacher health survey.
- Clinic use is increasing, but seemed low compared to potential capacity as of spring 2000. The fact that these rates were particularly low for social workers is striking given the clear impact of behavioral health problems on teachers and their concerns with enhancing behavioral health resources at the schools. A number of possible explanations should be considered; these are not all mutually exclusive. First, clinics may still be in a start-up phase. Second, the definition of a visit may be too narrow, particularly for social work visits. Researchers and clinicians have reported that minor student encounters constitute up to one-half of the interactions with the clinic, but are traditionally not recorded by the clinic because of the excessive time involved in collecting the data.¹¹ Third, student demand may be saturated, especially given the need to balance health needs with the importance of students attending classes. Fourth, there may still be unmet need because of a failure of teachers and administrators to steer students to clinic services. Fifth, clinic staff may be occupied with other key tasks, including case management, classroom-based health education and health fairs, and liaison activities with the schools and Beth Israel Medical Center.

- Teachers at clinic schools rate the clinics highly overall and feel particularly positive about the professionalism of clinic staff.
- The teachers are aware of most basic clinic services, but show lower levels of awareness of ancillary but still important clinic offerings such as after-school hours and psychiatric consultation.
- The disjunction between the way that teachers treat behavioral health episodes and social work visit rates on the one hand, and teacher concerns about behavioral emotional health on the other suggests either insufficient awareness of available services or a need to further define what will be most useful to teachers in this area.
- Teachers are concerned about the potential impact of clinic use on class attendance.
- Despite identifying higher rates of student health problems, teachers at the clinic schools express more confidence in school health resources for medical, dental, and emotional health than do those in non-clinic schools.
- Teacher responses to student medical problems differ in clinic and non-clinic schools.
- Clinics appear to be making an important difference in students' access to dental services by providing teachers with a resource for dealing with student dental problems. Teachers in clinic schools appear more aware of dental problems and are more likely to send students suffering dental problems to the nurse/clinic. Furthermore, teachers believe that clinics are helping to improve their students' dental health.
- It is unclear what the impact of clinic presence is on the handling of social/behavioral health; teachers at clinic schools are in our study actually less likely to send "acting out" students to the nurse/clinic and more likely to handle the problem themselves.

Enhancing Clinic Operations

- Emphasize collaboration among clinic program and on-site staff, school administrators, guidance counselors, and teachers to define the best ways that clinics can serve the schools and that teachers can support clinic services. Clinic program staff are pursuing innovative ideas, such as providing continuing education credits to teachers who attend clinic health education sessions. Continue to explore such avenues. Encourage school-clinic discussions about the best ways to handle health problems and episodes.
- Continue to expand efforts to increase teacher awareness of all clinic services.
- Monitor the number of visits made to the clinics over time. Bring staff together to discuss utilization trends and capacity. Once use rates have plateaued (as they may already have), the program may want to reassess the current staffing models or consider alternative approaches such as sharing clinics across schools (if Morton use of Quitman should improve) or sharing staff across clinics. In future assessments of clinic capacity and utilization, the numerous and important unrecorded activities of clinic staff - case management, contributions to the school community, outreach - should be taken into account.
- Continue to consider the potential for good collaborative relationships between school staff and clinics in selecting schools for future participation in the clinic program.

Future Clinic Monitoring and Evaluation

Clinic Data

- Overall the clinics have a relatively comprehensive database available to them. However, there are a number of difficulties with using clinic data for evaluation purposes and, in the future, for reimbursement purposes. These include missing data (particularly for insurance information and student risk factors), unclear procedure categories, lack of standardization in use of the database across the clinics, and lack of historical data, dates of data entry, and entry and exit dates for student registration.

Academic Data

- Attendance data and test scores are unlikely to provide good outcome measures in the short term. More appropriate measures may be tardiness, maintained attendance, and classroom experiences as reported by teachers. However, these more useful indicators are not currently routinely assembled by the schools.

Enhancing Clinic Data Collection

- Bring stakeholders together to define most critical data needs and focus efforts on improving data collection for those fields.
- Consider regular feedback of data to the clinicians and the administrative assistants in report forms. This will help them improve services, will increase the perceived value of the data, and clarify which data are most important.
- Add a discharge or transfer date to the archived clinic data for children no longer in the school.
- Add the response option "refused to state" or "not provided" to the insurance status, insurance type, and insurance company fields and emphasize entering a response for each record. Consider adding to other fields (e.g., student risk factors) as needed.
- Bring clinic and program staff together to review database definitions and coding practices. For example, insurance type options should be standardized and what constitutes a "visit" should be more clearly defined. In *Evaluating School Based Health*, Brindis, Kaplan and Phibbs, the team responsible for developing the SHO!!! Database, provide some guidance. For example, they recommend the following:

It is important that SBHC evaluation efforts are consistent so that information across sites can be compared. Thus, every clinic should have a similar definition of what constitutes a student 'visit'. [We] recommend that if an encounter requires something to be written in the student's health record than the encounter should be counted as a visit.

- Bring clinic and program staff together periodically to revisit data collection needs and challenges, facilitate problem-solving, and ensure consistency in data collection.
- Consider whether clinics should keep track of time spent on other activities that are not directly patient-related but are part of the clinics' mission. If this time is to be tracked, a system for doing so should be designed with the input of clinic staff in order to make sure it is not too burdensome. It might be desirable to select a typical week each semester and ask clinic staff to keep logs of their daily activities.
- Consider adding fields to track changes in insurance status and other critical indicators over time.

Enhancing Data to Assess Academic Impact

- Consider requesting that the school system: a) compile existing statistics on student tardiness and departures from school before the end of the school day; and b) record and compile reasons why children leave school.
- Monitor changes taking place in student testing and as these tests develop, reassess their utility for providing clinic outcome measures.
- Create tools that provide information about the pathways presumed to connect clinic use to academic behavior and performance. Some options are:
 - Periodic teacher surveys like the one used for this evaluation may be a valuable tool for producing trend data as the clinics mature (and for generating baseline information in schools before they are given a clinic). To increase the response rate in teacher surveys, we suggest experimenting with group administration and incentives for participation. For example, surveys could be administered during the lunch period for two days and a free lunch could be provided to participating teachers.
 - A more ambitious endeavor would be to administer student surveys, such as those used in an evaluation of the state's SBYSP program¹² (especially for older students); these require a larger effort, more resources, and a significant commitment on the part of the school. Preferably, teacher and student surveys would be conducted initially before the establishment of a clinic and administered both in clinic and matched comparison schools.

Endnotes

- 1 According to clinic staff, before transferring a child from one school to another, the school nurse must be contacted in order to forward information required for immunization and EPSDT tracking. The clinic uses this information to remove children from their active registered file into an archived data set. Thus the active file more accurately represents the number of registered children that still are in the school. Note that registered students could still somewhat overestimate those currently enrolled, because the school nurse is not necessarily informed about children who leave to go to another country or who drop-out of school entirely. The clinic database does not include a field to allow clinics to indicate that the child has left the school or the reason for leaving.
- 2 Based on available data. Note that the Carver School had no race/ethnicity reported for 12% of children registered.
- 3 As noted earlier, the data do not provide information on when a child has left the school. Therefore we were only able to identify students as "ever registered," but could not know whether those who registered the first year were still present in the second year, and were unable to analyze trends in use rates by year of operation.
- 4 The first interpretation would be consonant with the children in question being recorded as having a usual source of care and insurance coverage before ever using the clinic. The second interpretation would be possible if a usual source of care and/or insurance coverage were obtained after the child had used the clinic at least once. The third interpretation would be likely if usual source of care and/or insurance coverage were noted at the time of the first visit and possible if noted at any time thereafter. Unfortunately, given that the database does not allow tracking of historical information (e.g., insurance status at registration and changes over time), it is impossible to assess when the medical home or insurance coverage were established and recorded.
- 5 These rates cannot be compared with those reported in studies of other school clinics, as the literature generally reports annual visit rates. The data reported here represents a full two-year utilization period for Carver, and partial services offered at Quitman and Dayton during the one year. As described earlier, we do not know how long registrants remained at the schools, and while we could adjust for average school mobility rate, this is an incomplete statistic, and would not create comparable data to that reported in the literature.
- 6 If we saw any evidence of an impact of the school clinics in comparing across the clinic and non-clinic schools and between years 1 and 2 of clinic operations, our intention was to obtain earlier attendance data to see if this was the result of any larger trends. However, as described above, we saw no clinic effect.
- 7 We were somewhat more optimistic about finding an impact on the attendance rate than on standardized tests; attendance is more proximate to clinic services than testing performance, which is the end-point of a long and complicated chain of cause and effect relationships.

- 8 Although it seems unlikely, there is also a possibility that the difference in condition reporting stems from a difference between the teachers who elected to respond to the survey in the clinic and non-clinic schools.
- 9 For the clinic version of the teacher survey, we had a response "Sent student to school nurse/clinic." On the non-clinic version, this response included only the school nurse.
- 10 Employing a common survey technique, we asked teachers for their perceptions of all teachers' knowledge, rather than asking directly about their own knowledge to avoid the appearance that we were "testing" the respondents and encourage candid responses.
- 11 Brindis, C; Kaplan, D; Phibbs, S. A Guidebook for Evaluating School-Based Health Centers; University of Colorado Health Sciences Center, Denver, CO and University of California , San Francisco, CA. 1998. p. 150
- 12 Warren and Fancsali (2000).

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Appendix A

Teacher Survey (Clinic Version)

Rutgers' Center for State Health Policy

Newark Teacher School Health Survey

TEACHING DUTIES

1. What type of teaching does your current position involve? (Check one. If more than one applies, check the one in which you spend the most time.)

- Regular Education
- Special Education (self-contained classroom)
- Special Education (learning specialist)
- Physical Education
- Bilingual Education/ESL
- Music/Art Teaching
- Other (specify): _____

2. Which grade levels do you currently teach? (Check all that apply)

- Pre-Kindergarten
- Kindergarten
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

3. How many students do you currently teach?

_____ Students

4. How long have you been teaching?

_____ Years

5. How many years have you taught at your current school?

_____ Years

STUDENT HEALTH NEEDS

6. How many children in your class(es) have: (Please provide your best estimate for the number of children with each condition.)

- _____ Asthma
- _____ Other serious chronic (ongoing or recurrent) illness, e.g. diabetes or sickle cell anemia
- _____ Less serious chronic illness, e.g. eczema or other skin disease
- _____ Behavioral or emotional problems (for example: disruptive/ oppositional behavior, depression, anxiety or attentional difficulties)
- _____ Special education or “504” classification (i.e., have an IEP mandating accommodations for learning, emotional or developmental disability)
- _____ Physical disability
- _____ Hygiene issues
- _____ Chronic dental problems
- _____ Other health conditions that affect classroom attendance or participation

7. About what percentage of the children you teach take medication (including using an inhaler) on a regular basis?

_____ Percent

8. How often do the children you teach who need regular medication (including inhalers) administer these medications themselves during school?

- Never
- Rarely
- Sometimes
- Often

9. Using the scale below, in which 1 = “Poor” and 7 = “Excellent,” please rate the services available at your school for each of the following:

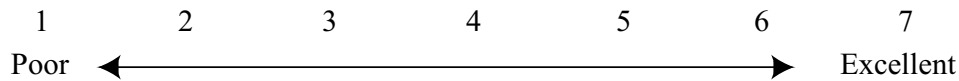
9a. addressing **physical health**-related issues and problems encountered by students. (Please circle one.).

1 2 3 4 5 6 7
 Poor ←—————→ Excellent

9b. addressing **emotional and behavioral health**-related issues and problems encountered by students.

1 2 3 4 5 6 7
 Poor ←—————→ Excellent

c. addressing **dental health**-related issues and problems encountered by students.



10. Please indicate the **number of times** since the beginning of the school year that a student in your class experienced or exhibited each of the following:

	Number of Times
a. An asthma attack requiring immediate attention	_____ Times
b. Other illness requiring immediate attention	_____ Times
c. An injury requiring immediate attention	_____ Times
d. A behavioral episode or emotional upset that required you to stop your routine for more than five minutes	_____ Times
e. A dental problem requiring immediate attention	_____ Times

The next few questions are about the **last time** each of the previous health situations arose this school year, how you responded, and the outcome.

11. Thinking back to the last **student asthma attack** this school year serious enough to require immediate attention, please address the following questions: (If no instances occurred this school year, skip to the next question.)

11a. How did you respond? (Check all that apply.)

- Allowed student to handle situation him- or herself
- Addressed problem within classroom directly with student
- Sent student to principal's office
- Sent student to other staff (specify): _____
- Sent student to school nurse/school clinic
- Other action (specify): _____

11b. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse's office or school clinic for remainder of school day.
- Student sent home prior to end of school day.
- Other outcome (specify): _____

12. Thinking back to the last time in which a **student illness other than asthma** this school year required immediate attention, please address the following questions: (If no instances occurred this school year, skip to the next question.)

12a. What condition did the child have? _____

12b. How did you respond? (Check all that apply.)

- Allowed student to handle situation him/herself
- Addressed problem within classroom directly with student
- Sent student to principal's office
- Sent student to other staff (specify): _____
- Sent student to school nurse/school clinic
- Other action (specify): _____

12c. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse's office or school clinic for remainder of school day
- Student spent rest of day in resource room or other place in school
- Student sent home prior to end of school day
- Other outcome (specify): _____

13. Thinking about the last time a **student injury** this school year required immediate attention, please address the following questions: (If no instances occurred this school year, skip to the next question.)

13a. How did you respond? (Check all that apply.)

- Allowed student to handle situation him/herself
- Addressed problem within classroom directly with student
- Sent student to principal's office
- Sent student to other staff (specify): _____
- Sent student to school nurse/school clinic
- Other action (specify): _____

13b. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse's office or school clinic for remainder of school day
- Student spent rest of day in resource room or other place in school
- Student sent home prior to end of school day
- Other outcome (specify): _____

14. Thinking back to the last time a **student behavioral episode** or emotional upset this school year required you to stop your routine for more than five minutes, please address the following questions: (If no instances occurred this school year, skip to the next question.)

14a. How did you respond? (Check all that apply.)

- Allowed student to handle situation him/herself
- Addressed problem within classroom directly with student
- Sent student to principal's office
- Sent student to other staff (specify): _____
- Sent student to school nurse/school clinic
- Other action (specify): _____

14b. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse's office or school clinic for remainder of school day
- Student spent rest of day in resource room or other place in school
- Student sent home prior to end of school day
- Other outcome (specify): _____

15. Thinking back to the last time a **student dental problem** this school year required immediate attention, please address the following questions: (If no instances occurred this school year, skip to the next question.)

15a. How did you respond? (Check all that apply.)

- Allowed student to handle situation him/herself
- Addressed problem within classroom directly with student
- Sent student to principal's office
- Sent student to other staff (specify): _____
- Sent student to school nurse/school clinic
- Other action (specify): _____

15b. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse's office or school clinic for remainder of school day
- Student spent rest of day in resource room or other place in school
- Student sent home prior to end of school day
- Other outcome (specify): _____

USE OF OTHER SCHOOL HEALTH SERVICES

16. Please indicate whether you have ever used the school nurse or school clinic staff to assist with the health education of your students by: (Check answers.)

	Used School Nurse	Used School Clinic
a. Providing you with information to convey to your students	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Providing you with educational materials to give to your students	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
c. Making a presentation themselves to students	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
d. Other; specify _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

17. Have you ever gone to the **school nurse** for advice or information about your health?

- Yes
 No

18. Have you ever gone to the **school clinic** for advice or information about your health?

- Yes
 No

KNOWLEDGE OF CLINICS

19. What portion of the faculty at your school do you think are aware of each of the following school health clinic offerings for students? (Circle one number in each row, with 1= Few, 2=Some, 3=Most)

Circle One Number

	Few	Some	Most
a. Check-ups	1	2	3
b. Immunizations	1	2	3
c. Diagnosis and treatment of sick or injured children.	1	2	3
d. Individual/ group health education	1	2	3
e. Health education classes or fairs outside the clinic	1	2	3
f. Individual counseling	1	2	3
g. Family counseling	1	2	3
h. Group counseling	1	2	3
i. Dental exams/cleaning	1	2	3
j. Dental x-rays	1	2	3
k. Referrals to health professionals and social services outside school	1	2	3
l. Prescriptions for medication	1	2	3
m. Consultative services of a visiting psychiatrist	1	2	3
n. Consultative services of a visiting physician	1	2	3
o. Some after-school clinic hours	1	2	3
p. Some summer clinic hours	1	2	3

PERSPECTIVES ON CLINICS

20. Please rate the extent to which you agree with the following statements about the school clinic (circle one number in each row from 1=strongly disagree to 6=strongly agree):

	Circle One Number					
	Strongly Disagree			Strongly Agree		
a. Kids using the clinic during class miss important work/information.	1	2	3	4	5	6
b. Kids using the clinic spend too much time waiting for services.	1	2	3	4	5	6
c. Kids use the clinic to avoid class.	1	2	3	4	5	6
d. Kids receive important services from the clinic that they otherwise would not get.	1	2	3	4	5	6
e. The school clinic staff are warm and respectful towards students.	1	2	3	4	5	6
f. The school clinic staff are knowledgeable.	1	2	3	4	5	6
g. School clinic staff communicate effectively with me about students.	1	2	3	4	5	6
h. Clinic staff appropriately maintain student confidentiality.	1	2	3	4	5	6
i. School clinic staff are responsive to my feedback.	1	2	3	4	5	6
j. The school clinic and the Child Study team coordinate well to help students in need of special services.	1	2	3	4	5	6
k. The school clinic follows up thoroughly on students' health needs, even if outside referrals are involved.	1	2	3	4	5	6
l. The clinic services are improving my students' physical health.	1	2	3	4	5	6
m. The clinic services are helping my students with emotional and behavioral difficulties.	1	2	3	4	5	6
n. The clinic services are improving my students' dental health.	1	2	3	4	5	6
o. The school clinic services contribute to improving my students' attendance at school.	1	2	3	4	5	6
p. The school clinic services contribute to my students' readiness to learn.	1	2	3	4	5	6
q. The school clinic is helpful to teachers.	1	2	3	4	5	6

SUGGESTIONS FOR SCHOOL CLINICS

21. Please rate whether you think each of the following changes in the school clinic is a good or bad idea: (Circle one number in each row from 1= "Bad Idea" to 6="Good Idea ")

	Circle One Number					
	Bad Idea					Good Idea
	←	—————→				
a. Increase communications with teachers (e.g. newsletter)	1	2	3	4	5	6
b. Treat students' siblings who are not students at the school.	1	2	3	4	5	6
c. Treat other family members of students.	1	2	3	4	5	6
d. Stay open more after-school hours.	1	2	3	4	5	6
e. Hold some weekend hours.	1	2	3	4	5	6
f. Hold more summer hours.	1	2	3	4	5	6
g. Offer more summer services.	1	2	3	4	5	6

22. Would you like the school clinic to offer a broader range of services?

- Yes What services and for whom? _____
- No _____

DEMOGRAPHICS

This information is for statistical purposes.

23. What is your gender?

- Male
- Female

24. What is your race/ethnicity? [Check all that apply]

- Black/African-American
- White/European-American
- Latino/Hispanic
- Asian-American/Pacific Islander
- Native American/Alaskan Native
- Other; specify _____

25. Do you live within the Newark school district?

- Yes
- No

COMMENTS

26. Do you have any other comments about the school clinics?

27. Do you have any other comments about how student health care needs could be met?

Thank you for taking the time to complete this survey. We appreciate and value your participation. A postage-paid envelope has been provided for you to use to return your survey.

If you have any questions, do not hesitate to contact:
Mina Silberberg, Ph.D.
Center for State Health Policy
Rutgers, The State University of New Jersey
317 George Street, Suite 400
New Brunswick, NJ 08901-2008
732/932-3105 x233

NEWARK TEACHER SCHOOL HEALTH SURVEY

**Conducted by the Rutgers Center for State Health Policy
in cooperation with the Newark School District**

FUNDED BY THE HEALTHCARE FOUNDATION OF NEW JERSEY

MARCH 2001

The responses of individual teachers will be kept in strict confidence
by the research team at Rutgers.
Please do not provide your name or other identifying information on the survey.
Thank you for your cooperation.

Please return in the postage paid envelope by _____

Appendix B

Teacher Survey (Non-Clinic Version)

NEWARK TEACHER SCHOOL HEALTH SURVEY

**Conducted by the Rutgers Center for State Health Policy
in cooperation with the Newark School District**

FUNDED BY THE HEALTHCARE FOUNDATION OF NEW JERSEY

MARCH 2001

The responses of individual teachers will be kept in strict confidence
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Please do not provide your name or other identifying information on the survey.
Thank you for your cooperation.

Please return in the postage paid envelope by _____

Rutgers' Center for State Health Policy

Newark Teacher School Health Survey

TEACHING DUTIES

1. What type of teaching does your current position involve? (Check one. If more than one applies, check the one in which you spend the most time.)

- Regular Education
- Special Education (self-contained classroom)
- Special Education (learning specialist)
- Physical Education
- Bilingual Education/ESL
- Music/Art Teaching
- Other (specify): _____

2. Which grade levels do you currently teach? (Check all that apply)

- Pre-Kindergarten
- Kindergarten
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

3. How many students do you currently teach?

_____ Students

4. How long have you been teaching?

_____ Years

5. How many years have you taught at your current school?

_____ Years

STUDENT HEALTH NEEDS

6. How many children in your class(es) have: (Please provide your best estimate for the number of children with each condition.)

- _____ Asthma
- _____ Other serious chronic (ongoing or recurrent) illness, e.g. diabetes or sickle cell anemia
- _____ Less serious chronic illness, e.g. eczema or other skin disease
- _____ Behavioral or emotional problems (for example: disruptive/ oppositional behavior, depression, anxiety or attentional difficulties)
- _____ Special education or “504” classification (i.e., have an IEP mandating accommodations for learning, emotional or developmental disability)
- _____ Physical disability
- _____ Hygiene issues
- _____ Chronic dental problems
- _____ Other health conditions that affect classroom attendance or participation

7. About what percentage of the children you teach take medication (including using an inhaler) on a regular basis?

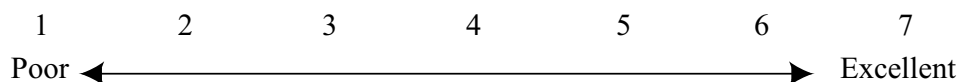
_____ Percent

8. How often do the children you teach who need regular medication (including inhalers) administer these medications themselves during school?

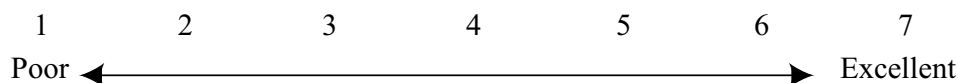
- Never
- Rarely
- Sometimes
- Often

9. Using the scale below, in which 1 = “Poor” and 7 = “Excellent,” please rate the services available at your school for each of the following:

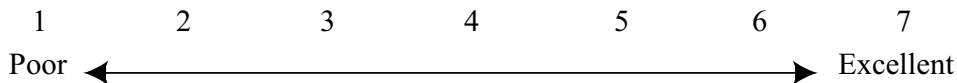
9a. addressing **physical health**-related issues and problems encountered by students. (Please circle one.).



9b. addressing **emotional and behavioral health**-related issues and problems encountered by students.



9c. addressing **dental health**-related issues and problems encountered by students.



10. Please indicate the **number of times** since the beginning of the school year that a student in your class experienced or exhibited each of the following:

- | | |
|--------------------------------------------------------------------------------------------------------------|-----------------|
| | Number of Times |
| a. An asthma attack requiring immediate attention | _____ Times |
| b. Other illness requiring immediate attention | _____ Times |
| c. An injury requiring immediate attention | _____ Times |
| d. A behavioral episode or emotional upset that required you to stop your routine for more than five minutes | _____ Times |
| e. A dental problem requiring immediate attention | _____ Times |

The next few questions are about the **last time** each of the previous health situations arose this school year, how you responded, and the outcome.

11. Thinking back to the last **student asthma attack** this school year serious enough to require immediate attention, please address the following questions: (If no instances occurred this school year, skip to the next question.)

11a. How did you respond? (Check all that apply.)

- Allowed student to handle situation him- or herself
- Addressed problem within classroom directly with student
- Sent student to principal’s office
- Sent student to other staff (specify): _____
- Sent student to school nurse
- Other action (specify): _____

11b. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse’s office for remainder of school day.
- Student sent home prior to end of school day.
- Other outcome (specify): _____

12. Thinking back to the last time in which a **student illness other than asthma** this school year required immediate attention, please address the following questions: (If no instances occurred this school year, skip to the next question.)

12a. What condition did the child have? _____

12b. How did you respond? (Check all that apply.)

- Allowed student to handle situation him/herself
- Addressed problem within classroom directly with student
- Sent student to principal's office
- Sent student to other staff (specify): _____
- Sent student to school nurse
- Other action (specify): _____

12c. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse's office for remainder of school day
- Student spent rest of day in resource room or other place in school
- Student sent home prior to end of school day
- Other outcome (specify): _____

13. Thinking about the last time a **student injury** this school year required immediate attention, please address the following questions: (If no instances occurred this school year, skip to the next question.)

13a. How did you respond? (Check all that apply.)

- Allowed student to handle situation him/herself
- Addressed problem within classroom directly with student
- Sent student to principal's office
- Sent student to other staff (specify): _____
- Sent student to school nurse
- Other action (specify): _____

13b. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse's office for remainder of school day
- Student spent rest of day in resource room or other place in school
- Student sent home prior to end of school day
- Other outcome (specify): _____

14. Thinking back to the last time a **student behavioral episode** or emotional upset this school year required you to stop your routine for more than five minutes, please address the following questions: (If no instances occurred this school year, skip to the next question.)

14a. How did you respond? (Check all that apply.)

- Allowed student to handle situation him/herself
- Addressed problem within classroom directly with student
- Sent student to principal's office
- Sent student to other staff (specify): _____
- Sent student to school nurse
- Other action (specify): _____

14b. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse's office for remainder of school day
- Student spent rest of day in resource room or other place in school
- Student sent home prior to end of school day
- Other outcome (specify): _____

15. Thinking back to the last time a **student dental problem** this school year required immediate attention, please address the following questions: (If no instances occurred this school year, skip to the next question.)

15a. How did you respond? (Check all that apply.)

- Allowed student to handle situation him/herself
- Addressed problem within classroom directly with student
- Sent student to principal's office
- Sent student to other staff (specify): _____
- Sent student to school nurse/school clinic
- Other action (specify): _____

15b. What was the outcome? (Check all that apply.)

- Student returned to/stayed in classroom and had no further problem.
- Student returned to/stayed in classroom and had further problems.
- Student stayed in nurse's office for remainder of school day
- Student spent rest of day in resource room or other place in school
- Student sent home prior to end of school day
- Other outcome (specify): _____

USE OF OTHER SCHOOL HEALTH SERVICES

16. Please indicate whether you have ever used the school nurse to assist with the health education of your students by: (Check answers.)

- | | Used School Nurse | |
|----------------------------------------------------------------------|------------------------------|-----------------------------|
| a. Providing you with information to convey to your students | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| b. Providing you with educational materials to give to your students | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| c. Making a presentation him- or herself to students | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| d. Other; specify _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

17. Have you ever gone to the school nurse for advice or information about your health?

- Yes
 No

SCHOOL CLINICS

18. Have you ever heard of a health clinic housed within a Newark school? These clinics currently exist at four Newark schools and are sponsored primarily by the Healthcare Foundation of New Jersey. They include the services of a nurse practitioner, social worker, and dentist, and provide on-site diagnosis and referral, treatment of less serious medical and dental conditions, and counseling.

- Yes, I have heard about the clinics
 No, I have not heard about the clinics

19. Would you want such a clinic in your school?

- Yes, I would want a clinic at my school
 No, A clinic is not needed at my school

DEMOGRAPHICS

This information is for statistical purposes.

20. What is your gender?

- Male
- Female

21. What is your race/ethnicity? [Check all that apply]

- Black/African-American
- White/European-American
- Latino/Hispanic
- Asian-American/Pacific Islander
- Native American/Alaskan Native
- Other; specify _____

22. Do you live within the Newark school district?

- Yes
- No

23. Do you have any other comments about how student health care needs could be met?

Thank you for taking the time to complete this survey. We appreciate and value your participation. A postage-paid envelope has been provided for you to use to return your survey.

If you have any questions, do not hesitate to contact:

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Rutgers, The State University of New Jersey
317 George Street, Suite 400
New Brunswick, NJ 08901-2008
732/932-3105 x233