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The Southern Seven Oral Health Needs Assessment

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Paper to be presented at the ninth annual meeting of the

Illinois Rural Health Association, Springfield, IL,

March 25, 1997

### Abstract

The Southern Seven Oral Health Needs Assessment was conducted to assist in the planning of comprehensive oral health services to residents of the southernmost seven counties of Illinois. The needs assessment was conducted according to the methods specified in the Association of State and Territorial Dental Directors (ASTDD) Seven Step Model. The ASTDD Seven Step Model stipulates tasks to be accomplished when conducting an oral health needs assessment, necessary and optional variables for data collection, and the appropriate measures for assessment and report writing. This assessment involved collection of population data, epidemiological data, as well as professional and consumer perceptions related to dental care in the region. In addition to the presentation of results of the study, this report documents areas of need for dental care in the southern seven counties and offers recommendations for the enhancement of oral health services.

## The Southern Seven Oral Health Needs Assessment

### Introduction

Historically, the southern seven counties have been and continue to be the poorest in Illinois. One of the greatest needs of the population of this area is primary and oral health care. Although programs have been implemented to enhance primary care in the region, much less is currently being done to improve access to oral health care.

To improve access requires an assessment of: “(a) the extent and types of existing and potential problems in a community, (b) the current system of services available, and (c) the extent of unmet needs, underutilized resources or shortcomings of the service delivery system” (Kuthy & Siegal, 1993, p. 7). The purpose of the Southern Seven Oral Health Needs Assessment is to guide the planning and development of comprehensive oral health programs and services for the people of the southernmost seven counties in Illinois, including Alexander, Hardin, Johnson, Massac, Pope, Pulaski, and Union counties. This report documents the procedures and results of an oral health needs assessment of the southern seven counties utilizing the Association of State and Territorial Dental Directors (ASTDD) Seven Step Model. The report offers recommendations and action plans for implementing programs designed to meet the oral health needs of population in the region.

### Methods

The ASTDD Seven Step Model stipulates procedures and activities for conducting an oral health needs assessment. The first step of the model requires the identification of partners and the forming of a needs assessment advisory committee.

The Southern Seven Health Department requested assistance from the Center for Rural Health and Social Service Development at Southern Illinois University at Carbondale for conducting the needs assessment. The Center for Rural Health, in turn, requested financial support and assistance from Community Health and Emergency Services, Inc. of Cairo Illinois (a community health center providing primary and dental care). Potential partners were identified as those individuals involved directly or indirectly in providing oral health services to the population of the southern seven counties. Invitations for participation were sent to all dentists and school nurses, as well as to the Dental Hygiene program at Southern Illinois University at Carbondale. Those individuals who responded positively to the invitation became members of the advisory committee.

The purpose of this committee was to: (a) create advocates for oral health, (b) provide potential key informants, (c) provide additional in-kind resources, (d) enhance formalized communication, (e) gain appreciation for differing perspectives, (e) educate consumers and other providers, and (f) fostering ownership of outcomes (Kuthy & Siegal, 1993). As well, the advisory committee served as participants in a professional focus group, data gathering, and recommendation setting. The advisory committee included area dentists, school nurses, health department personnel, university faculty, community health center personnel, and project researchers. (See list of Advisory Board members in Appendix A).

The second step of the model stipulates that the advisory committee should conduct a self-assessment to determine goals of the project and the resources available to conduct project activities. The primary goal of the project was to meet the

requirements of the Illinois Department of Public Health in their request for an oral health needs assessment. The first meeting of the advisory committee was held on September 23, 1997. At the first meeting, the project researchers gave an overview of the project purpose and requested input regarding their professional perceptions of need in the region, what they perceived as the most important goals to accomplish by the needs assessment and what resources existed to accomplish those goals.

Following the meeting of the advisory committee it was determined that the project researchers (the first two authors) would collect all available secondary and primary data for the project. It was determined that a survey should be conducted to assess the perceptions of consumers and potential consumers of oral health care.

Demographic and epidemiological data were derived from published sources such as the Illinois Project for the Local Assessment of Needs (IPLAN) and the U. S. Census. As well, the Illinois Department of Public Aid, Illinois Department of Public Health, Delta Dental and the Southern Seven Health Department were interviewed for data related to this project. Advisory committee members were also asked to provide input regarding the oral health needs of the southern seven counties.

The perception of consumers regarding oral health needs was gathered by conducting a survey. The survey was developed by modifying a questionnaire utilized by the Macoupin County Health Department in their 1996-1997 Oral Health Needs Assessment (see Appendix B). The survey was distributed in communities through dental clinics, schools, the local health department, and clinics. Several groups were targeted including dental patients, parents of school children, and members of local parent-teacher associations. In total, 818 surveys were returned of which 747 were

used in the analysis. The surveys used represented persons living in or near fifty-eight communities in all seven counties.

## Results

The advisory committee provided input regarding the oral health needs of the southern seven counties. In particular they reported that a primary concern for meeting the needs of the population regarded the low level of economic opportunity. They stated that it was unlikely any progress could be made toward meeting the needs of the population without coordinated efforts on the part of professionals and support from the state and federal government. The perception of the advisory committee echoed the long understood status of poverty in the region. The dentists reported that working in the region was difficult economically. Furthermore, there is little incentive to admit Medicaid patients.

The dentists reported that the reimbursement level for Medicaid was too low to justify participation. They pointed out that the amount of time required to fill out the paperwork associated with Medicaid payments costs more than the reimbursement generated. That is, dentists were losing money by participating in the program. Some dentists stated that they would take a limited number of Medicaid patients on an emergency basis at no cost rather than fill out the Medicaid paperwork. These dentists also stated that they were willing to collaborate in providing services if it could be done without economic detriment.

Another issue discussed by the advisory committee involved the current practice of screening students entering the schools. School nurses reported that screening is not required, only recommended. They also reported that when screening does occur,

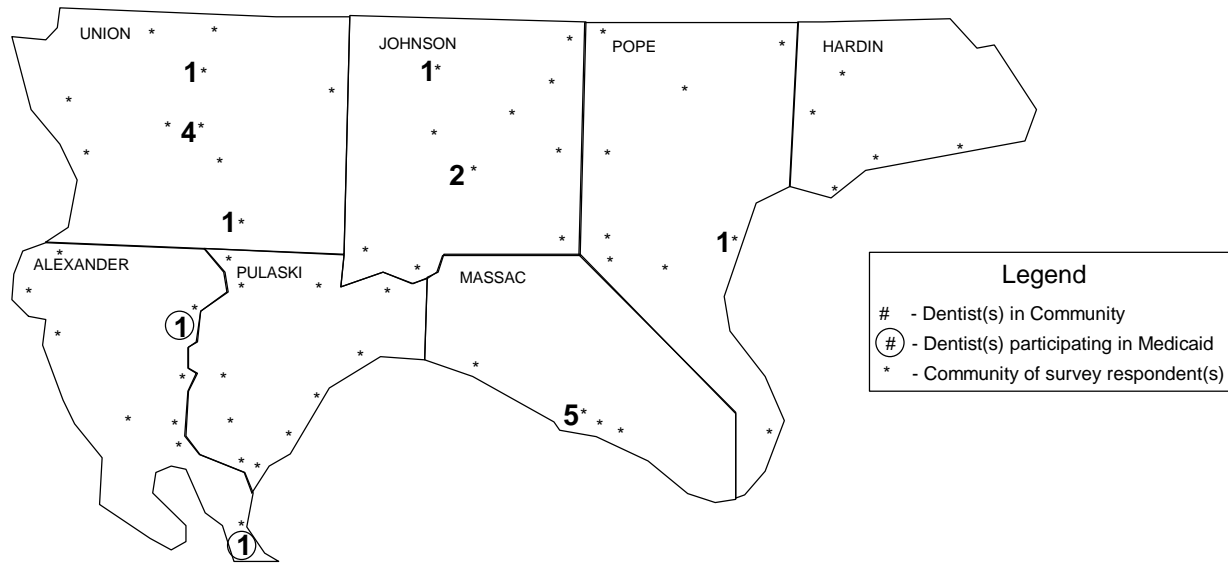
it is superficial. Often the screening is not conducted by a dentist or dental hygienist, or the screening is conducted in short intervals of less than two minutes per student. The screening often occurs in the schools which do not have access to x-ray equipment for more thorough examinations. The dentists stated that type of screening was not sufficient for determining the status of dental caries.

The advisory committee also noted that although some screening does occur, very little if any follow-up occurs. If a child is found to have cavities, that information is reported. It becomes the responsibility of the parent to take the child to the dentist. However, the child cannot have dental sealants installed unless the cavities are filled. Therefore, in order for a sealants program to be successful, children should have a full exam and follow-up.

The school nurses also reported observing a significant number of children with decayed or missing teeth. Although the nurses were unable to report numbers or percentages of students with decayed or missing teeth, due primarily to the insufficient screening program, they reported that the oral health needs of children were not being met. They believe the primary causes to be: (a) lack of parental training in proper oral hygiene and supervision, (b) lack of fluoridation for some students, and (c) lack of follow-up.

The advisory committee discussed the issue of transportation and access, particularly due to the fact that dentists may be concentrated in the larger towns at a distance from many potential patients. The committee did not perceive transportation to be a major problem because there are programs for transporting low income families to medical or dental facilities in the southern seven counties. However, they did state that

there may be a significant number of families who do not qualify for the transportation program, but also may not have the economic means to travel. In the figure below, the location of dentists in the seven county region demonstrates how access may be problematical for a portion of the population, particularly the Medicaid eligible.



**Figure 1.** Location of dentists versus survey respondents in the southern seven counties.

The southern seven counties have several characteristics which distinguish the region from the rest of the state. In general, the southern seven counties are above the state average for percentage of persons below poverty and enrolled in Medicaid. The southern seven counties also are above the state average for the percentage of children receiving EPSDT services. Likewise, the region is below the state average in the number of people served by fluorinated community water systems or in the number of persons with optimal fluoride. The demographic and epidemiological data for the needs assessment are reported in the following table.

Table 1.

By County Oral Health Needs:

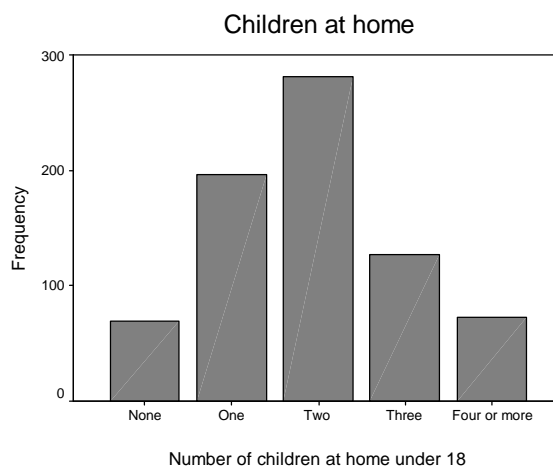
	Seven County Total	State	U.S.
Total Population	71,429		
Whites	87.8%	82.3%	83.9%
Non-whites	12.2%	17.7%	16.1%
Children below 14	20.0%	21.8%	n/a
Per capita income	9,157		
% below poverty	22.1%	11.9%	13.1%
200% below poverty	47.8%	27.1%	n/a
% children below poverty	30.1%	16.8%	17.9%
Preprimary school enrollees	1,160	n/a	n/a
Primary & secondary school enrollees	12,519	n/a	n/a
% of population enrolled in Medicaid	14.8%	8.2%	n/a
% of population under 21 enrolled in Medicaid	23.0%	14.0%	14.9%
% of children 6-8 w/ 1+ carious teeth		37.0%	
% of children 13-14 w/ 1+ carious teeth		40.0%	
% of children 6-8 w/ 1+ decayed or filled teeth		54.0%	
% of children 13-14 w/ 1+ decayed or filled teeth		60.0%	
% of people served by water systems w/ fluoride	33.1%	81.9%	n/a
% of people w/ optimal fluoride	74.9%	89.8%	n/a
% of children 6-8 w/ 1+ dental sealant		19.0%	
% of children 13-14 w/ 1+ dental sealant		22.0%	
# of oral health providers	17		
# of dentists participating in Medicaid	2		
# of DPA enrolled children receiving EPSDT service	2,994		n/a
% of DPA enrolled children receiving EPSDT service	48.0%	30.0%	n/a
# of school nurses	13		
# of people served by Delta Dental for Medicaid	561		
# of children in Headstart	517		

According to the IPLAN data, the percentage of children with carious teeth statewide (>37.0%) continues to be high, and the percentage of children with decayed, missing or filled teeth (>54.0%) also continues to be high. Given the comparatively low number of people with optimal fluoride in the southern seven counties, as well as the relative poverty, it is likely that the percentage of children in the region with dental caries, decayed or missing teeth would be higher than the state average. The practices

of the population regarding oral health may also indicate the likelihood of a higher than state average incidence of poor oral health.

Consumers were surveyed to determine their attitudes and practices regarding oral health. Of the 747 surveys returned, 41.9% were from Pulaski County, 13.3% were from Alexander, 12.9% were from Massac, 11.4% were from Union, 10.0% were from Pope, 5.8% were from Hardin, and 4.8% were from Johnson. A majority of respondents (63.5%) reported having no dentist in their town with a significant number (17.3%) reporting that the nearest dentist was more than twenty miles away. Interestingly, 27.6% of respondents reported not knowing the distance to the nearest dentist.

Of the respondents, 86.9% were female and 10.2% reported wearing dentures. Figure 2 shows the number of children under the age of 18 for survey respondents. We also inquired about brushing and flossing among adults and children. The majority of respondents reported brushing more than once a day (63.6%), or at least once a day (31.7%). Respondents also reported that their children brushed either more than once a day (55.7%), or at least once a day (29.7%). However, when considering how often



**Figure 2.** The number of children at home under 18 as reported by consumers.

parents and children floss, 56.2% of parents flossed less than once a day, and 65.2% of their children flossed less than once a day.

Ninety-two percent of parents also reported that they taught their children how to brush their teeth. Yet, only 54.8% reported supervising the brushing of their under age seven children’s teeth. Furthermore, only 13.7% reported that their children had dental sealants. When asked if they visit a dentist at least once a year, only 52.1% of respondents said yes. When asked if they take their children to a dentist at least once a year, only 54.6% of respondents said yes. The primary reason for not going to the dentist is economic. As Figure 3 demonstrates, costs, lack of insurance and the shortage of dentists who admit Medicaid patients were listed as the top three reasons. Likewise, respondents reported the same reasons for not taking their children to see a dentist at least once a year (see Figure 4 below).

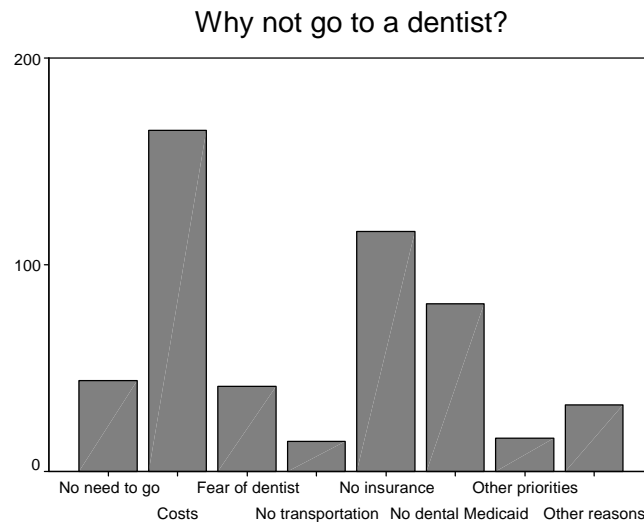


Figure 3. Reasons why respondents do not go to a dentist at least once a year.

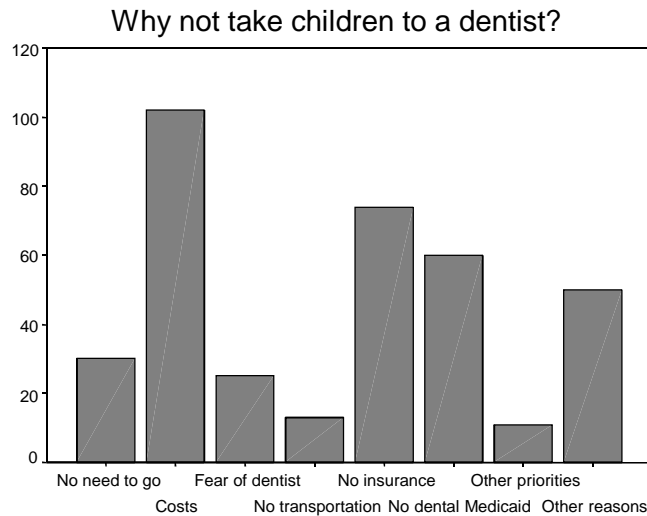


Figure 4. Reasons why respondents do not take their children to a dentist at least once a year.

It is important to point out that consumers did not perceive the need to go, fear of the dentist, or lack of transportation as primary reasons to either not go to a dentist nor take their children. Parents cited other reasons for not taking their children to a dentist, although few respondents specified what those reasons might be. In general, however, the economic reasons specified by respondents is congruent with the poverty level of the southern seven counties.

### Conclusions

Several conclusions can be drawn from the results of the needs assessment. First, children tend to be taught how to brush their teeth by their parents. However, parents may infrequently if ever go to a dentist. This suggests that children may not be receiving optimum training for proper brushing. Likewise, parents reported that neither them nor their children flossed on a regular basis. These findings suggest a strong need for oral health education in the southern seven counties.

The southern seven counties of Illinois have a high proportion of citizens on Medicaid. However, only two (1.4 FTE) dentists in the region are admitting Medicaid patients: these dentists are employed by a community health center and provide service at Cairo and Tamms facilities, which may present a hardship for citizens at a distance, for example Hardin and Pope counties. As reported by dentists during our focus group, the main reason for not admitting Medicaid patients is the low level of reimbursement. This reimbursement level is not economically feasible for dentists who incur high overhead cost due to the paperwork involved. Several dentists stated that they admit and treat a limited number of Medicaid patients for free to avoid the overhead. Yet, charity work for all Medicaid patients in the southern seven counties could not be accomplished due to the high number of Medicaid eligible patients and the relatively low number of dentists in the region who take Medicaid patients. There is no competition for Medicaid patients in the southern seven counties.

Advisory board members also noted that they see a significant number of people (both children and adults) with dental caries and decaying teeth which must be removed. A significant portion of the problem for children results from baby bottle tooth decay. They suggested that sealants may serve as a preventive measure, but that a sealant program alone would not suffice to meet the oral health needs of the population. They suggested that such a program should be enhanced by community health education, water fluoridation, and dental service programs, including the support for an anesthetist.

This study had several limitations. First, the data utilized for demographic and epidemiological indicators is dated. To maintain consistency between data points, we

chose data from the latest year (1990) from which all data was available. Although IPLAN data was available up to 1993, several data items were only available through 1990. Second, several items were not available at either the county, state or U.S. level. What was reported in Table 1 is what we were able to locate through published sources or through interviews with agency personnel.

Another limitation of the study involves the sample of consumers. To expedite the process, advisory committee members chose convenience samples from their area. Respondents were chosen from among dental patients, school parents, and parent-teacher association members. While this was not a strict random sample, we were able to get a large number of respondents from each county, and from various geographical locations. With these limitations in mind, our results indicate substantial need for oral health programs in the southern seven county region.

### Recommendations

The Southern Seven Oral Health Needs Assessment Advisory Committee made the following six recommendations: (a) reinstitute dental sealant programs for children, (b) provide financial support for screening and follow-up of children following DPA guidelines, (c) increase Medicaid reimbursement and reduce paperwork, (d) enhance health education programs for children and parents, (e) provide education regarding the use of water fluoridation, and (f) provide economic incentives/support for establishing remote part-time clinics where no dentist are available.

Several years ago, the Southern Seven Health Department administered a state dental sealants program in the southern seven counties. The program was successful in providing sealants for many children in the region but was discontinued when

funding priorities changed. A new dental sealant program would provide means for preventing dental caries in children. However, for such a program to be most successful requires the careful integration of other oral health programs. Our program would be implemented in cooperation with Community Health and Emergency Services, Inc.

Sealants cannot be applied until after an exam and cleaning, and only when no untreated dental caries exist. Local school districts recommend but do not require a screening for oral health for all children entering school. Screening is often performed by non-dental health care professionals. Furthermore, screening does not entail a full exam or cleaning, particularly because schools do not have the necessary equipment or resources to perform such services. When screening does occur, it is typically superficial and does not include x-rays. Therefore, some mechanism must be instituted to provide for a pre-sealant oral exam and services for children. Such a program will require financial support.

Our second recommendation requires support for screening, exam sealant and follow-up services to be conducted by area dentists and dental hygienists. One option would be to provide services to children with the utilization of dental hygiene students from the Southern Illinois University Dental Hygiene program under the direct supervision of area dentists. By utilizing dental hygiene students, the Southern Seven Health Department could administer services in a cost effective manner. As well, dental hygiene students are required to perform such services under supervision as part of their training.

Exams and sealant application could be performed in “weekend” clinics. Area dentists could be contracted on a rotating basis to supervise these services by the health department. Furthermore, these services may be provided for all entering students, with follow-up services being provided for Medicaid eligible children.

A consistent complaint of area dentists involved the paperwork and poor reimbursement rates which precluded participation in the Medicaid program. In particular, our third recommendation would be to improve the billing process for dentists. Dentists reported they would be more likely to participate if it were economically feasible to do so.

Another consistent problem reported in our results involved the health education needs for parents and children. For example, the majority of respondents reported that they taught their children how to brush their teeth. Secondly, respondents reported that neither they nor their children flossed at least once a day. Many respondents reported not going to the dentists at least once a year. These findings, coupled with the prevalence of oral health problems in children suggest that both parents and children need better education regarding oral health.

Furthermore, our results suggest that water fluoridation may also be a problem for many residents in the southern seven counties. Although providing fluoridation, especially to private citizens, may be outside the scope of this program, education regarding the health benefits, risks and proper use of fluoride should be provided. Oral health education could be performed by environmental health staff, and dental hygiene students as required in their educational program.

Finally, the Illinois Department of Public Health, as part of its initiative to improve the oral health of citizens could provide economic incentives and support for establishing remote part-time clinics. This support might come in the form of equipment which can be utilized at schools or health clinics, in partnership with Community Health and Emergency Services, Inc. or other area providers, in areas where no dentists currently serve. As discussed above, the only dentists participating in Medicaid practice in Alexander county. Dental services for the population in other counties may be more readily available and affordable if economic incentives for dentists could be provided in their region. Although transportation was not cited by consumers as problematical, we know from the demographics of the region, and from the limitations of our sample that the development of dental services in areas where none currently exist, at least on a part-time basis, could greatly enhance the oral health of the population.

We believe that the need for oral health care services in the southern seven counties of Illinois is significant. We also believe that state and federal financial support for programs designed to meet those needs are warranted.

## References

Kuthy, R. A., & Siegal, M. D. (1993). Assessing oral health needs: ASTDD Seven Step Model. Omaha, NE: Association of State and Territorial Dental Directors.

## Notes

This report was supported by the Southern Seven Health Department (Ullin, IL) and Community Health and Emergency Services, Inc. (Cairo, IL). The Southern Seven Health Department submitted this report to the Illinois Department of Public Health, Division of Dental Health for application to the U.S. Department of Health and Human Services Maternal and Child Health Block Grant Program.

The authors wish to acknowledge the following Dental Hygiene Degree Completion Students for their assistance in coding the survey results: Dolores Lovell, Marcia Senek, Alessondra Sims, Shannon Stenson, Angela Stricker, and Michele Welte, of the College of Applied Sciences and Arts Dental Hygiene Program, Southern Illinois University at Carbondale.

Appendix A

List of Advisory Board Members

Shirley Beaver, Associate Professor of Dental Hygiene - SIUC

Fred Bernstein, CEO - Community Health and Emergency Services, Inc. - Cairo

Dan Bowlin, Dentist - Dongola

Linda Byrd, Southern Seven Health Department

Jim Clark, Union County Department of Human Services

Charla Lautar, Assistant Professor of Dental Hygiene - SIUC

H. Paul LeBlanc III, Center for Rural Health and Social Service Development - SIUC

Cheryl Manus, Southern Seven Health Department

Stephanie Mathus, Southern Seven Health Department

Stephen Miller, Dentist - Metropolis

Sharon Mumford, Executive Director, Southern Seven Health Department

Robynn Nawrot, Center for Rural Health and Social Service Development - SIUC

Glen Parker, Dentist - Cairo

Don Patton, Community Health and Emergency Services, Inc. - Cairo

Ledillon Powers, School Nurse - Mounds

Kelly Stevens, Southern Seven Health Department

Rosita Takke, School Nurse - Ullin

Appendix B

ORAL HEALTH SURVEY

Please fill in the blank or circle the correct answer.

- 1) What town do you live in or near? \_\_\_\_\_
- 2) What county do you live in?
  - A. Alexander
  - B. Hardin
  - C. Johnson
  - D. Massac
  - E. Pope
  - F. Pulaski
  - G. Union
- 3) Is there a dentist in your town?
  - A. Yes
  - B. No
  - C. Don't know
- 4) If not, how far to the nearest dentist?
  - A. Don't know
  - B. Less than 10 miles
  - C. 10 - 20 miles
  - D. More than 20 miles
- 5) Are you male or female?
  - A. Male
  - B. Female
- 6) How many children under the age of 18 live in your home? \_\_\_\_\_
- 7) Do you have dentures?
  - A. Yes
  - B. No
- 8) How often do you brush your teeth/dentures?
  - A. More than once a day
  - B. Once a day
  - C. Less than once a day
- 9) How often do your children brush their teeth?
  - A. More than once a day
  - B. Once a day
  - C. Less than once a day
- 10) How often do you use dental floss?
  - A. More than once a day
  - B. Once a day
  - C. Less than once a day

- 11) How often do your children use dental floss?  
 A. More than once a day  
 B. Once a day  
 C. Less than once a day
- 12) Who taught your children to brush their teeth?  
 A. Parent or adult caregiver  
 B. Teacher  
 C. Dentist/Dental Hygienist  
 D. Public Health Staff
- 13) Do you supervise your children's brushing if under the age of 7?  
 A. Yes  
 B. No
- 14) Do your children have dental sealants? (A sealant is a plastic coating to prevent decay)  
 A. Yes  
 B. No
- 15) Do you go to the dentist at least once year?  
 A. Yes  
 B. No
- 16) If you do not go to the dentist at least once a year, why not?  
 A. Do not need to go  
 B. Costs too much  
 C. Fear of dentist  
 D. No transportation  
 E. No dental insurance  
 F. Dentists do not take Medicaid  
 G. Other priorities  
 H. Other \_\_\_\_\_
- 17) Do you take your children to the dentist at least once a year?  
 A. Yes  
 B. No
- 18) If you do not take your children to the dentist at least once a year, why not?  
 A. Do not need to go  
 B. Costs too much  
 C. Fear of dentist  
 D. No transportation  
 E. No dental insurance  
 F. Dentists do not take Medicaid  
 G. Other priorities  
 H. Other \_\_\_\_\_

**Thank You.**