

HEALTHY SMILES, HEALTHY GROWTH

2013-2014:

Assessing the Oral Health Status
and Body Mass Index of
Third Grade Children
in Illinois

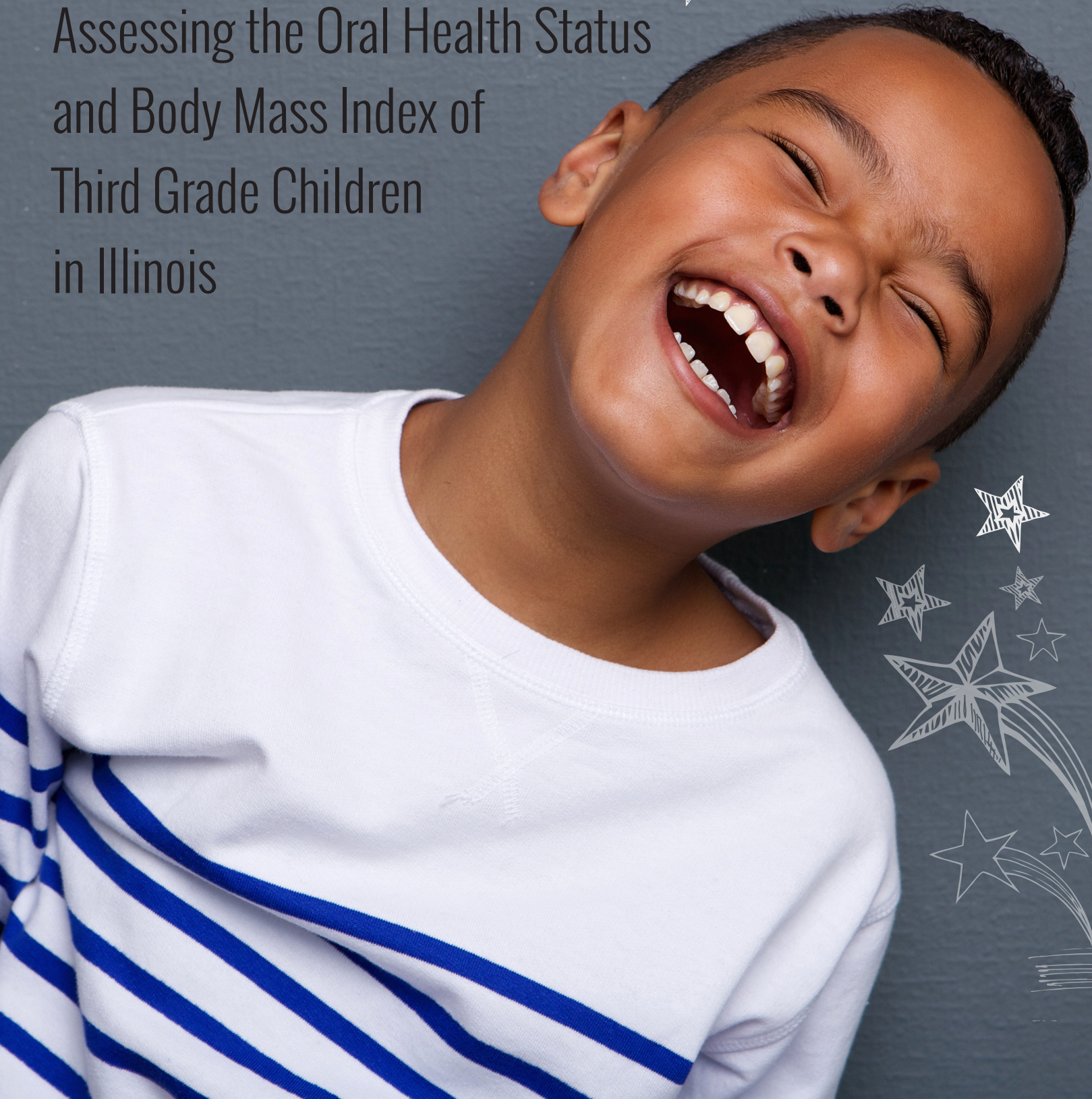




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EXECUTIVE SUMMARY

During the 2013-2014 school year, the Chicago Community Oral Health Forum (CCOHF) completed the Healthy Smile, Healthy Growth (HSHG) project, an assessment of the oral health and overweight/obese status of third grade children in Illinois. Almost 3,800 children from Illinois public schools participated in the study. Dental screenings and height/weight measures were completed by dentists and dental hygienists following the protocol of a Basic Screening Survey (BSS) from the Association of State and Territorial Dental Directors (ASTDD). Results were compared to two previous surveys conducted in the 2003-04 and 2008-09 school years. In general, dental caries and obesity continue to be important health problems affecting a significant segment of Illinois third grade population. Nevertheless, results revealed positive trends for both oral health and growth status in the last decade. Nine main findings were identified.

Key findings for oral health status:

- Around 52% of third grade children in the state had caries experience, suggesting that tooth decay is still a significant public health problem affecting Illinois children.
- Over 22% of Illinois third graders had untreated decay and 2% had an urgent treatment need. Even though important improvements have been accomplished in the last decade to reduce untreated caries, over 3,000 out of approximately 151,000 third grade children in Illinois are still suffering from pain and infection that if not treated can have serious health complications.
- Around 50% of Illinois third grade children had at least one dental sealant present in a permanent molar. The presence of dental sealants in third graders has almost doubled in the last decade.
- The proportion of children affected by untreated decay differs for racial/ethnic minority groups as well as for children from low income families in Illinois. Overall, 19% of White, 21% of Latino, 27% of Asian, and 29% of African American third graders are affected by untreated decay. In the same way, 26% of children eligible for Free and Reduce Meal Program (FRMP) had untreated decay as compared to 16% of non-eligible children.

- The disparity gap for access to dental sealants seems to be decreasing as children from almost all racial/ethnic groups and income had similar levels of dental sealants. The expansion of the school-based dental sealant program in the last decade seems to be playing an important role expanding availability of dental sealants to all children.
- Findings from this study support the importance and impact of the school-based dental sealant program. Regions in the state such as Suburban Cook County (18%) that do not have the program are far below the Healthy People 2020 target for dental sealants present in school children (28%) as compared to the rest of the state (50%).

Key findings for growth status:

- Over 19% of third grade children in Illinois are obese; 1 out-of 3 is either overweight or obese.
- Third grade children eligible for FRMP are more affected by obesity (25%) than non-eligible children (12%).
- Third grade children from some racial/ethnic minority groups in Illinois are more affected by overweight and obesity. Overall, 15% of White, 21% of African American, 27% of Other, and 30% of Latino third graders are considered obese.

INTRODUCTION

Even though tooth decay (dental caries) has been significantly decreasing in school-aged children in the last decades, it still remains the single most common chronic disease affecting children in the United States (1). Approximately 20% of children aged 5-11 years had untreated tooth decay and 40% had dental restorations (2). Dental diseases go undiagnosed and worsen over time leading to invasive, painful and costly dental treatments and possibly leading to other health problems. The good news is that dental diseases in general are highly preventable.

Dental diseases among children can be a barrier to their physical growth, self-esteem, capacity to socialize, attend and concentrate in school. Recent studies have associated poor oral health with missed school days and poor school performance (3). Children with poor oral health status are almost three-times more likely to miss school days due to pain as compared to children with good oral health. In addition, disadvantaged children reported an average of 2.2 absent days per school year, and parents average 2.5 absent days from work per school year due to children's dental problems (4).

The mouth is the entrance of the body and it reflects general health and well-being. An association between oral health infections/inflammation and other health conditions such as heart diseases, diabetes, low-birth-weight and premature birth have been suggested (5). Surgeon General Regine M. Benjamin denoted that the health of our mouth is ultimately supporting and reflecting the health of our body.

On the other hand, obesity has become a major public health problem that is affecting more and more children in the U.S., increasing the concern of parents, teachers, the health care system and policymakers. In the last decade, childhood obesity has more than doubled creating a greater risk for children to develop health problems such as high blood pressure, high cholesterol, and high glucose and increasing the risk to develop serious diseases such as type 2 diabetes and heart diseases (6). Additionally, obese children are at greater risk of social discrimination and lower self-esteem; they are also more likely to become obese adults (7).

According to the 2007 National Survey of Children's Health (NSCH), the prevalence of overweight and obese children in Illinois has increased since 2003. Among the states, Illinois ranks 42 (1 is the lowest in overall prevalence) with 35% of children considered either overweight or obese (8). The HSHG 2008-09 assessment revealed similar results, almost 40% of third grade children were either overweight or obese (9).

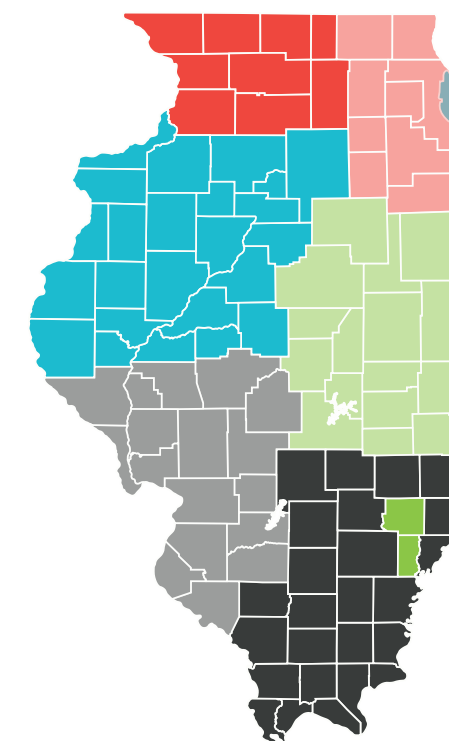
Childhood obesity and tooth decay are diseases that may share some common risk factors. Both diseases specially affect children from minority racial/ethnic groups and children from low income families (10). Healthy Smile, Healthy Growth (HSHG) is a public health surveillance project focused on third grade children in Illinois that bring to the forefront these two distinct but important health issues: dental caries and obesity. Oral health status, height and weight measurements are collected on a statewide sample that is randomized and stratified by urbanicity and public health regions. As we embark on collecting data on a routine basis, stakeholders in the state will be able to monitor if programs and activities undertaken by Illinois organizations and communities are making a difference in improving these important health issues. Quality and timely data collected through HSHG can be used to develop capacity building objectives for public health action and data driven prevention strategies to reach target audiences. It can also help us to coordinate interventions that will link children in need to services and to inform policy decisions that will ultimately lead to systematic changes to improve the well-being of Illinois children.



METHODS

A sample of third grade children from Illinois public schools were selected in accordance with the National Oral Health Surveillance System requirements. One hundred schools were selected, the list of schools was sorted to achieve a stratified selection: first by Illinois public health region (Rockford, Peoria, Edwardsville, Marion, Champaign, West Chicago, Suburban Cook County (not highlighted in Figure 1), and Chicago School District) (see Figure 1); then by urbanicity within Rockford, Peoria, Edwardsville, and Champaign regions and by county in the West Chicago collar region; and finally by socioeconomic status (SES) (percent of children eligible to FRMP) of the schools. This design ensures proportional representation of the Illinois public school third grade population geographically and by SES status. A sample size of 100 schools was determined to be logistically and economically feasible and to ensure that a minimum of 2 schools were selected from each urban/rural and collar county category in each health region. Refusing schools were replaced within the same region/urbanicity/SES as the refusing school to ensure geographic and SES representation of the state population of third grade public school children was maintained in the sample.

FIGURE 1. PUBLIC HEALTH REGIONS, ILLINOIS DEPARTMENT OF PUBLIC HEALTH.



Dentists and dental hygienists attended a hands-on calibration session which included a review of dental diagnostics criteria and standard protocols to collect and record the height and weight measures. Standardized and calibrated scales and stadiometers provided by the Illinois Department of Public Health (IDPH) were distributed in the training session. Dentists and dental hygienists completed the screenings at schools following the diagnostic criteria outlined by the ASTDD (11). BSS measures are presented in Table 1.

TABLE 1: **BASIC SCREENING SURVEY MEASURES AND DEFINITIONS FOR HSHG 2013-14, ILLINOIS**

BASIC SCREENING SURVEY MEASURES	DEFINITION
UNTREATED DECAY	The presence of a dental caries in which the screener can readily observe breakdown of the enamel surface. Only cavitated lessons were considered untreated decay.
TREATED DECAY	The presence of any type of filling, including a temporary filling. Teeth that were extracted as a result of decay were also included.
CARIES EXPERIENCE	Children with treated decay, untreated decay, or both.
DENTAL SEALANTS ON PERMANENT MOLARS	The presence of at least one sealant on a permanent first molar. The sealant can cover all or part of the pits or fissures or it can be partially lost.
URGENCY OF NEED FOR DENTAL CARE	Children with no observed problems were classified as having no treatment needs. Children with cavitated lesions without accompanying signs or symptoms were coded as having early dental care need. Children with signs or symptoms that included pain, infection or swelling were coded as having immediate treatment needs.
RAMPANT DECAY	Children with seven or more teeth with untreated and/or treated decay.
HEIGHT	Stature of the child was recorded to the nearest .25 inches (rounded up to nearest quarter).
WEIGHT	Weight measures were recorded to the nearest 10th of a pound (000.0).

Demographic information was obtained from parents in the consent form and included child date of birth, gender, child eligibility for the FRMP (yes or no), child dental insurance status (yes or no), race (White, African American, American Indian/Alaskan Native, Asian, Native Hawaiian/Pacific Islander, Other), ethnicity (Latino or non-Latino), and the primary language spoken at home. In this report, Latino is used interchangeably with Hispanic and refers to people whose ancestors can be traced to the regions of Central and South America, Mexico, and the Caribbean.

At the school, screeners collected oral health, height and weight measures. Gloves, flashlights, and disposable mouth mirrors or a tongue depressor were used for the oral examination. A wooden 90-degree angle portable stadiometer was used for the height and a digital scale for the weight measures. Children removed shoes and heavy outerwear before weighing.

The data were adjusted to account for the complex sampling scheme and non-response. Data analysis included frequencies, cross tabulations, 95% confidence intervals and standard errors. The BMI analysis was based on the Centers for Disease Control and Prevention (CDC) gender and age specific growth charts. Children were ranked into percentiles indicating the relative position of the child's BMI in the sample (Table 2). All data were entered initially into an Excel spreadsheet and analyzed using SPSS version 22 (SPSS Inc, Chicago, IL). The Institutional Review Board of the IDPH granted exemption from Human Subjects Research for the study. Additionally, the Chicago Public Schools (CPS) Research Review Board approved the study.

TABLE 2: **BMI-FOR-AGE CATEGORIES AND DEFINITIONS, CDC**

BMI CATEGORY	DEFINITION
UNDERWEIGHT	BMI below the 5th percentile
HEALTHY WEIGHT	BMI between the 5th and 85th percentile
OVERWEIGHT	BMI between 85th and 94th percentiles
OBESE	BMI at or above the 95th percentiles



RESULTS

A probability stratified state-wide sample of 100 schools was selected for the study. The final number of schools participating was 88, representing 31 Illinois counties distributed in the six Illinois public health regions (Figure 2), for a participation rate at the school strata level of 88%. Special representation was given to the West Chicago Region since more than 50% of the state’s population lives in this area. A total of 4,950 students had a consent form returned but just 3,928 students had a positive consent. From those 3,772 students were screened, for a total participation rate at the student level of 44%. Demographic characteristics of participating children are presented in Table 2 (see Data Tables).

FIGURE 2. PARTICIPATING COUNTIES BY ILLINOIS IC HEALTH REGIONS AND URBANICITY, HSHG 2013-14.

- URBAN
- COLLAR
- RURAL
- COOK COUNTY

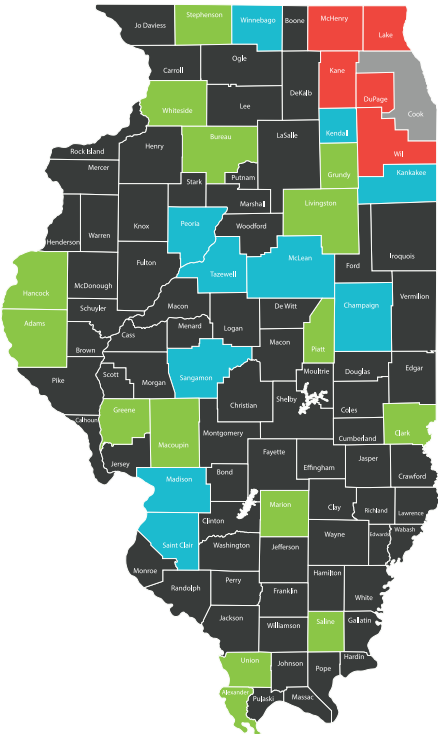
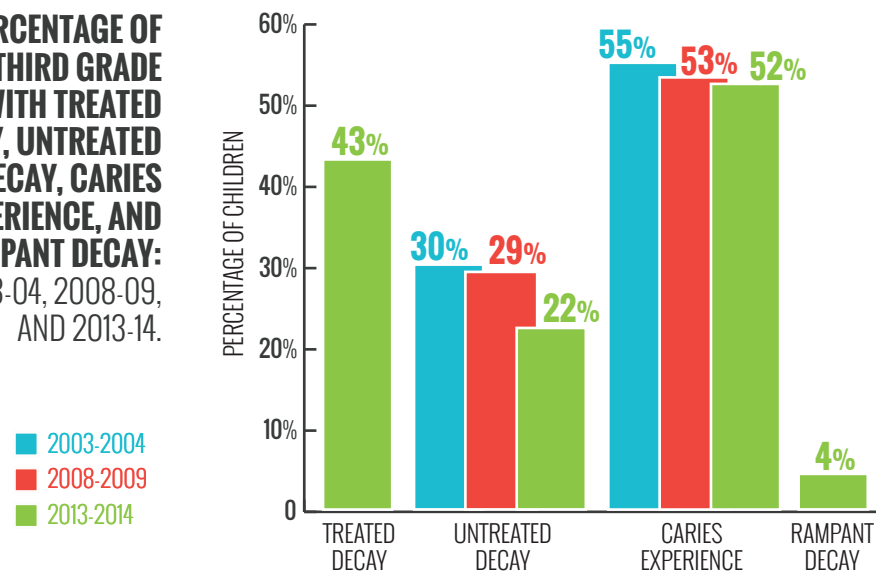
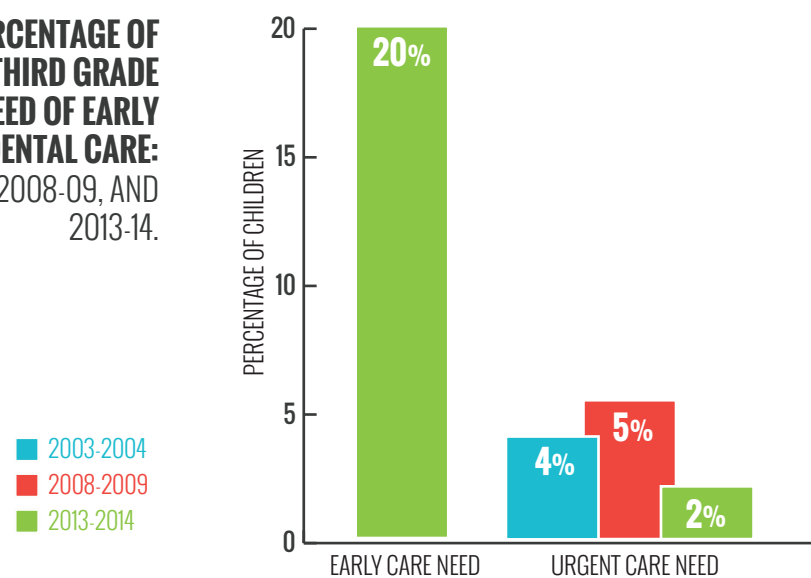


FIGURE 3. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WITH TREATED DECAY, UNTREATED DECAY, CARIES EXPERIENCE, AND RAMPANT DECAY:
HSHG 2003-04, 2008-09, AND 2013-14.



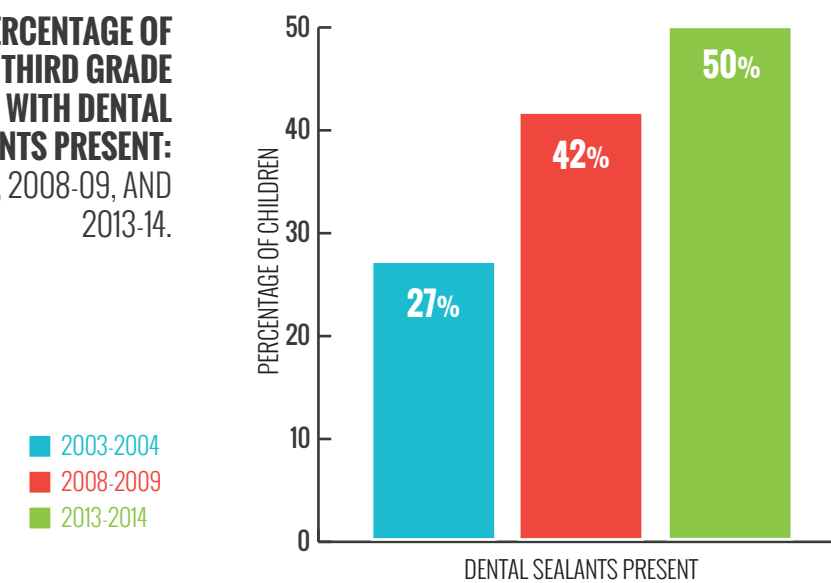
Results from the 2013-14 survey in Illinois showed that more than half (52%) of third grade children had caries experience and around 1 out of 5 had untreated decay (Figure 3). In addition, 43% of children had treated decay and 4% of third graders had 7 or more teeth with dental cavities and/or dental fillings. Caries experience in Illinois children has decreased slightly in the last decade from 55% in 2003-04 to 52% in 2013-14. Untreated decay has decreased from 30% to 22% in the same period of time. Data related to treated decay was not recorded in the previous two surveys. Rampant decay is a new measure included in the 2013-14 survey. The reduction of caries experience and untreated decay might suggest that third grade children in Illinois are experiencing less caries and those children with caries have more opportunity to access care.

FIGURE 4. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN IN NEED OF EARLY OR URGENT DENTAL CARE:
HSHG 2003-04, 2008-09, AND 2013-14.



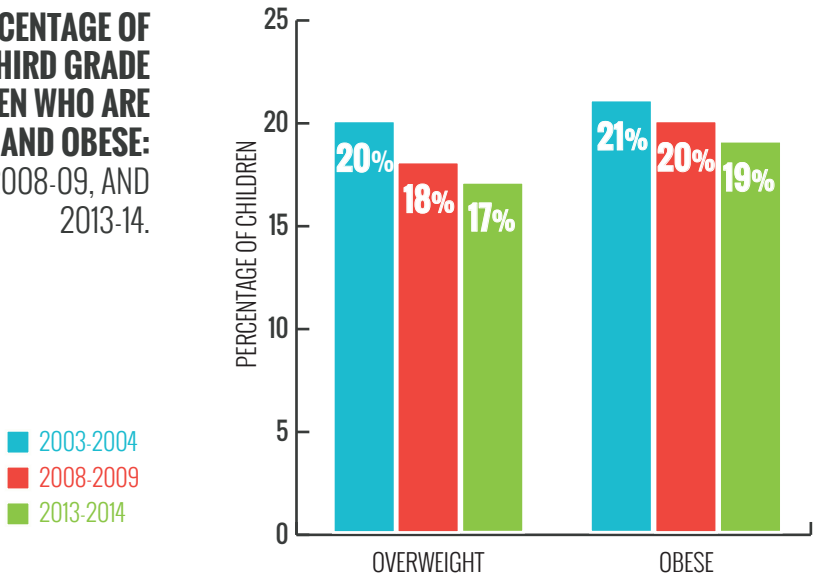
Twenty percent of the third grade children screened had an early care need, which means that the child needed to be seen by a dentist but was not experiencing any signs of pain or infection (Figure 4). On the other hand, 2% of the children had an urgent treatment need because of pain or swelling and needs to be seen by a dentist within 24 to 48 hours. In 2013-14 there were approximately 151,000 third grade children in Illinois public schools; this means that approximately 3,000 third graders may need urgent care because of pain or infection that if not treated can result in life-threatening complications. The percent of children requiring urgent care decreased in the last decade from 4% in 2003-04 to 2% in the present survey. Data related to early care was not recorded in previous years.

FIGURE 5. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WITH DENTAL SEALANTS PRESENT:
HSHG 2003-04, 2008-09, AND 2013-14.



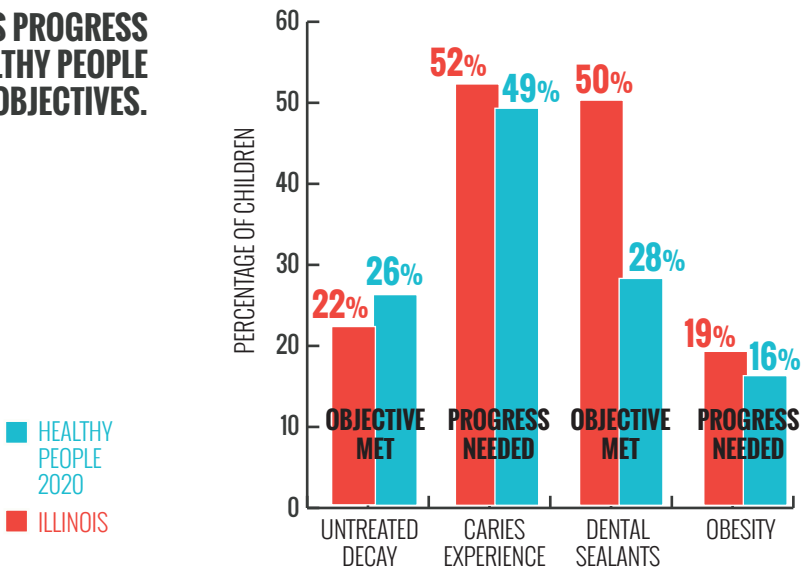
Sealants, a plastic coating applied to the chewing surfaces of back teeth, have shown to be an effective intervention to reduce the risk of developing dental caries in the chewing surfaces of molars (12). The percentage of Illinois children with at least one dental sealant present on a first permanent molar has almost doubled in the last decade going from 27% in 2003-04 to 50% in the present survey (Figure 5). Results from the study might be a good indication of the effectiveness of the IDPH School-based Dental Sealant Grant Program that have expanded dramatically in the last 10 years increasing access to preventive dental services to all children at the school setting. However, it is important to note that low participation of children in the program and inability to connect children with a dental provider when immediate care is needed, continues to be important challenges that should be addressed in the immediate future.

FIGURE 6. **PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WHO ARE OVERWEIGHT AND OBESE:** HSHG 2003-04, 2008-09, AND 2013-14.



Results from the 2013-14 BSS indicate that 19% of third grade Illinois children are obese, and over one-third (36%) are either overweight or obese (Figure 6). Table 5 presents results from the 2013-14 study using the CDC's BMI-for-Age cutoffs stratified by gender. Results show that 18% of girls and 16% of boys are classified as overweight; and 17% of girls and 21% of boys are considered obese. The percentage of Illinois third grade children classified as overweight/obese has slightly decreased in the last decade, however, still 1 out-of 3 Illinois third grade children is considered either overweight or obese, and 1 out-of 5 is considered obese. By gender our findings are consistent with national findings for 6-11 years old children, where 20% of boys and 16% of girls are considered obese (6).

FIGURE 7. **ILLINOIS PROGRESS TOWARD HEALTHY PEOPLE 2020 OBJECTIVES.**



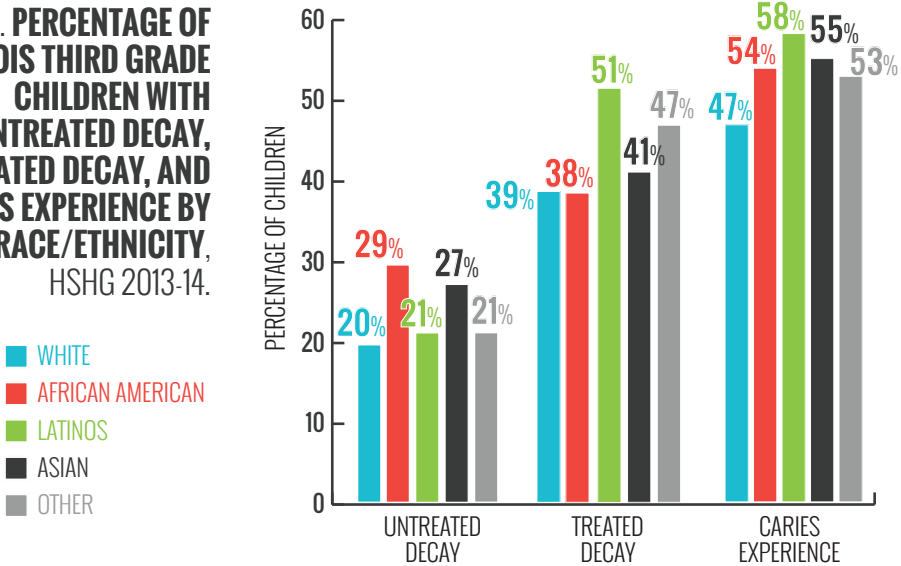
Healthy People 2020 (HP 2020), a set of national objectives that serve as the benchmark for measuring the burden of diseases in the country, state or local community, contain 33 oral health objectives that outlined the roadmap for tracking the nation's oral health and some objectives to monitor obesity in children (13). Data collected through the HSHG assessment are comparable with four HP 2020 objectives allowing us to monitor how Illinois efforts are aligned with national objectives. Information regarding oral health status will be incorporated into the National Oral Health Surveillance System (14).

HP 2020 set the goal to reduce the proportion of children 6-9 years of age with untreated tooth decay to 26%, Illinois is already below the target at 22% (Figure 7). A second objective is to reduce the proportion of children 6-9 years of age with caries experience to 49%. Illinois has not met the objective yet with 52% of children with caries experience. A third objective is to increase the proportion of children with a dental sealant present to 28%. Illinois has far overtaken the target with 50% of children with sealants present. Finally, HP 2020 set the goal to reduce the proportion of children 6-11 years of age who are considered obese to 16%. Illinois has still 19% of children that are considered obese. Trends over the last 10 years show that Illinois is moving in the right direction to achieve the goals for caries experience and obesity by 2020.

Oral Health Inequalities

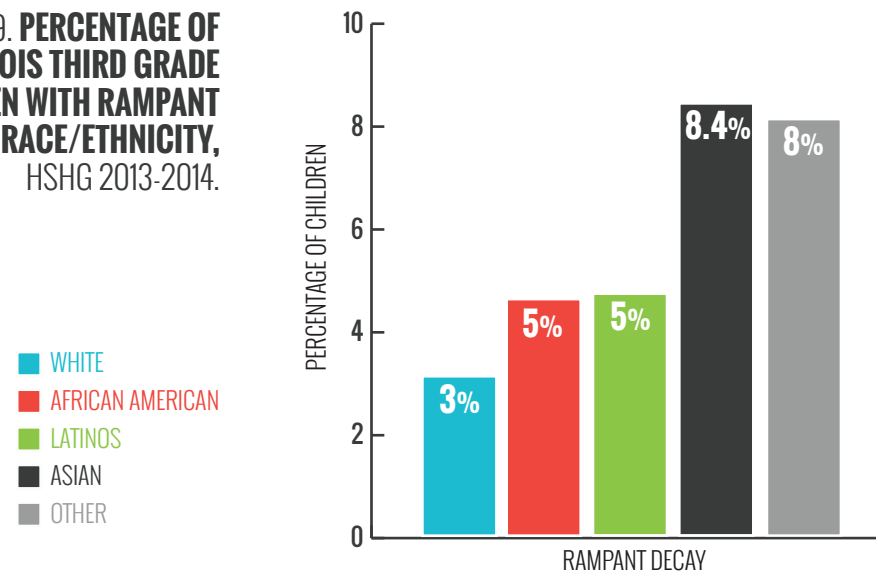
Social determinants of health such as race/ethnicity, family income, and geographic location, among others, are increasingly affecting children's vulnerability to diseases and limiting access to appropriate care. Findings from different research studies show that these factors are ultimately becoming the drivers for health inequalities not only in the U.S. but worldwide (15) (16). Results from HSHG 2013-14 indicate that important disparities are affecting children from vulnerable populations in Illinois.

FIGURE 8. **PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WITH UNTREATED DECAY, TREATED DECAY, AND CARIES EXPERIENCE BY RACE/ETHNICITY,** HSHG 2013-14.



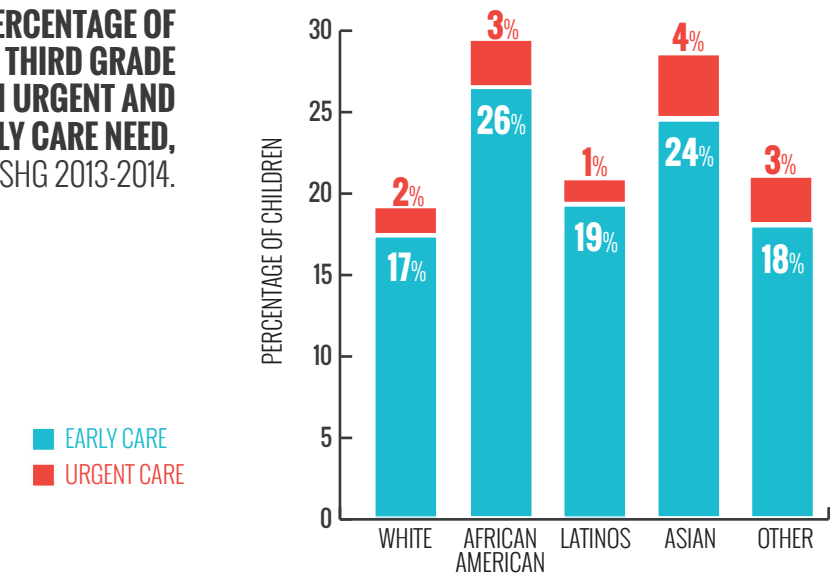
Results show that Latino (58%), Asian (55%), and African American (54%) third graders have higher caries experience as compared to White children (47%). Treated decay was higher for Latinos (51%) and children categorized as Other (47%), while the prevalence of untreated decay was higher for African American (29%) and Asian (27%) children. These results suggest that African American and Asian children in Illinois may be facing more barriers in receiving dental treatment. Barriers to access and utilization of services may be related to lack of dental insurance, low family income, or not having a regular source of dental care among others (17). Caries experience (treated and untreated decay) was higher for Latinos (58%), however, it is important to note that the highest rate of Latino children with treated decay (51%) seems to be leading this indicator.

FIGURE 9. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WITH RAMPANT DECAY BY RACE/ETHNICITY, HSHG 2013-2014.



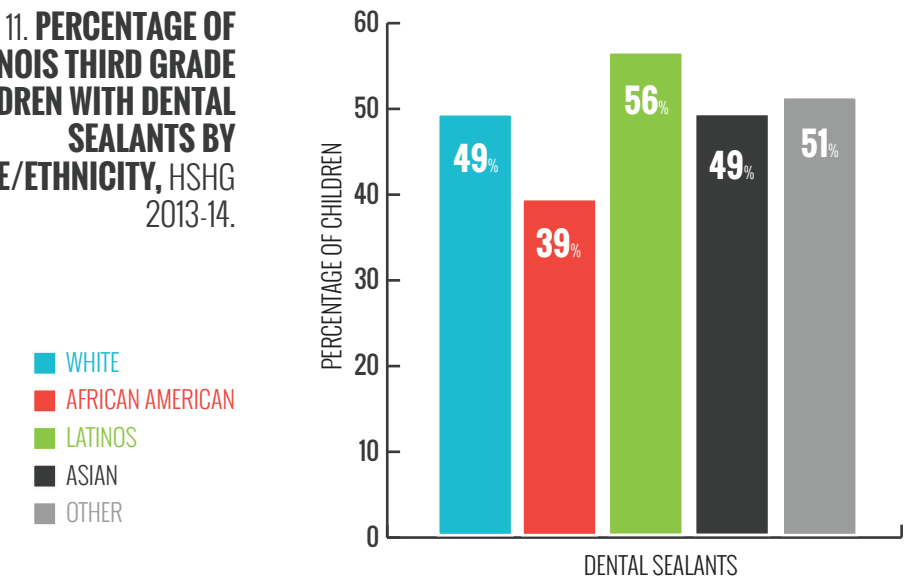
In Illinois, rampant decay, which refers to children with seven or more teeth with untreated and/or treated decay, affects more Asian (8%) and children from the Other group (8%).

FIGURE 10. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WITH URGENT AND EARLY CARE NEED, HSHG 2013-2014.



In total, 29% of African American and 28% of Asian third grade children have a dental care need that need to be addressed by a dentist. This includes urgent care needs that if not treated can have serious health complications.

FIGURE 11. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WITH DENTAL SEALANTS BY RACE/ETHNICITY, HSHG 2013-14.

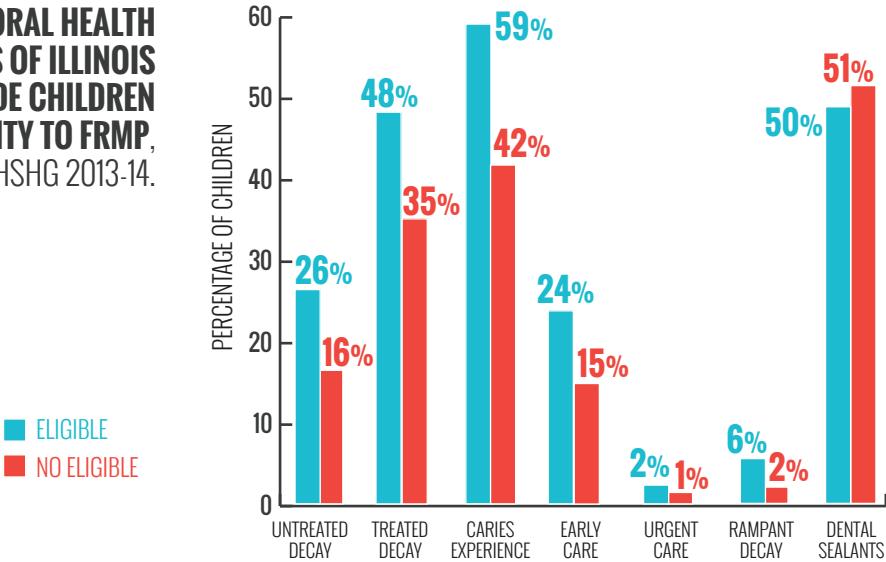


In Illinois, almost all racial/ethnic groups have around 50% or more children with one dental sealant present in a permanent molar except for African Americans (39%). However, all groups exceeded the HP 2020 target of 28% of children with a dental sealant. School-

based dental sealant programs in the state seem to be playing an important role in closing the gap for access to preventive services among multiple racial/ethnic groups. During the 2013-14 school year over 175,000 children were served through the IDPH Dental Sealant Grant Program.

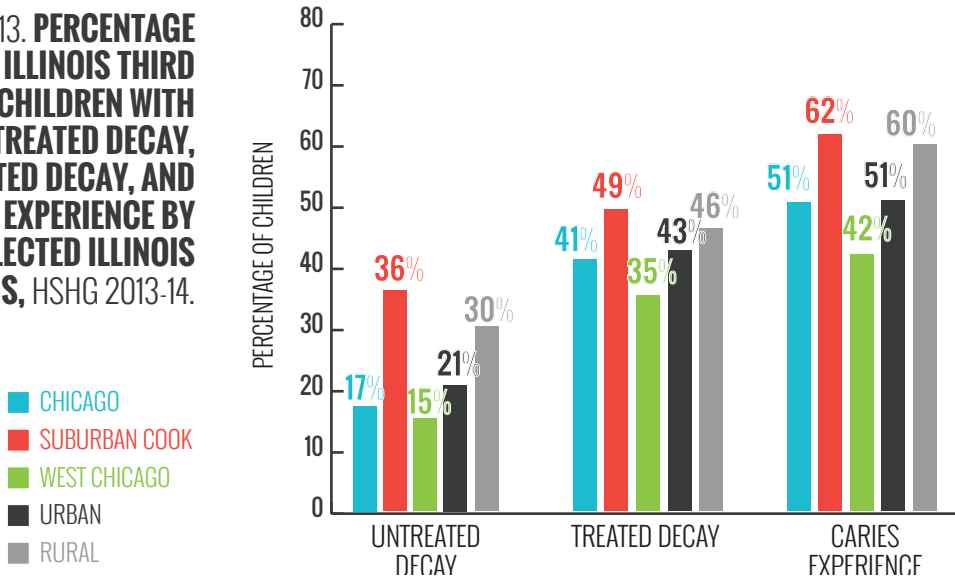
Regarding oral health disparities it is important to note that this study shows important improvements in the oral health of Latino third grade children. Latinos showed the highest percent of children with dental sealants present (56%) as well as the highest percent of children with treated decay (51%) compared to other racial/ethnic groups. These findings suggest some improvements in access to preventive and dental care for Latino children in the state.

FIGURE 12. ORAL HEALTH STATUS OF ILLINOIS THIRD GRADE CHILDREN BY ELIGIBILITY TO FRMP, HSHG 2013-14.



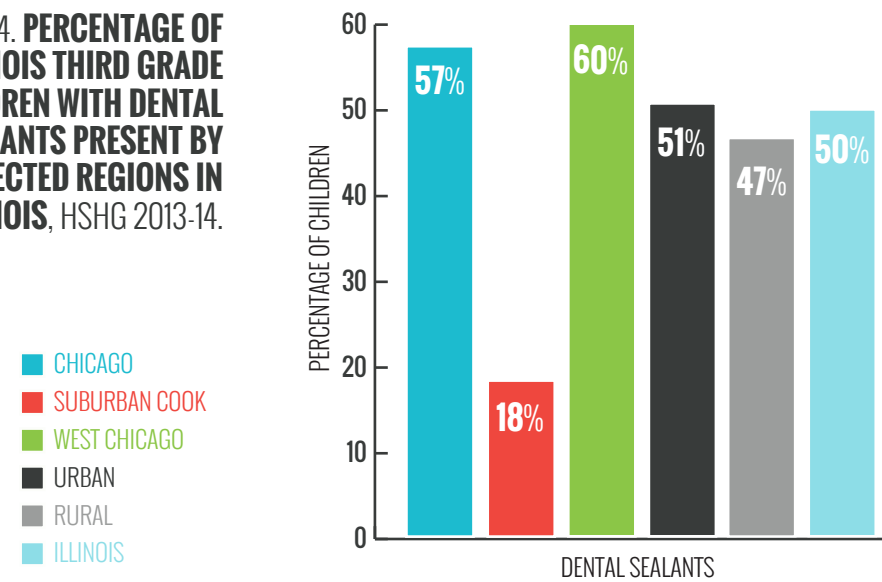
Overall, children eligible for FRMP (proxy measure for SES) were significantly more affected by dental caries in all measures than non-eligible third grade children in Illinois. However, the presence of dental sealants was very similar for both groups suggesting an important role of school-based sealant programs in increasing access to preventive services for low income populations in the state.

FIGURE 13. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WITH UNTREATED DECAY, TREATED DECAY, AND CARIES EXPERIENCE BY SELECTED ILLINOIS REGIONS, HSHG 2013-14.



Findings by selected regions in the state show that children from Suburban Cook County are significantly more affected by dental caries, including treated (49%) and untreated decay (36%), than children from other regions (Figure 13). Children living in rural areas of Illinois are also highly affected. Additionally, Suburban Cook County third grade children had also the lowest rate for dental sealants present (18%) in the whole state (Figure 14), making it the only region in the state that is below the HP 2020 target of 28% of children with dental sealants present. Findings in this regard, can be the reflection of Cook County Department of Public Health discontinuing their school-based sealant program 10 years ago. Some private dental providers still visit Suburban Cook County schools and may provide dental sealants but efforts lack public health guidance and are less organized than in the rest of the state. These findings provide more support highlighting the importance and effectiveness of school-based oral health programs as a best practice intervention for decreasing dental caries in school-age children.

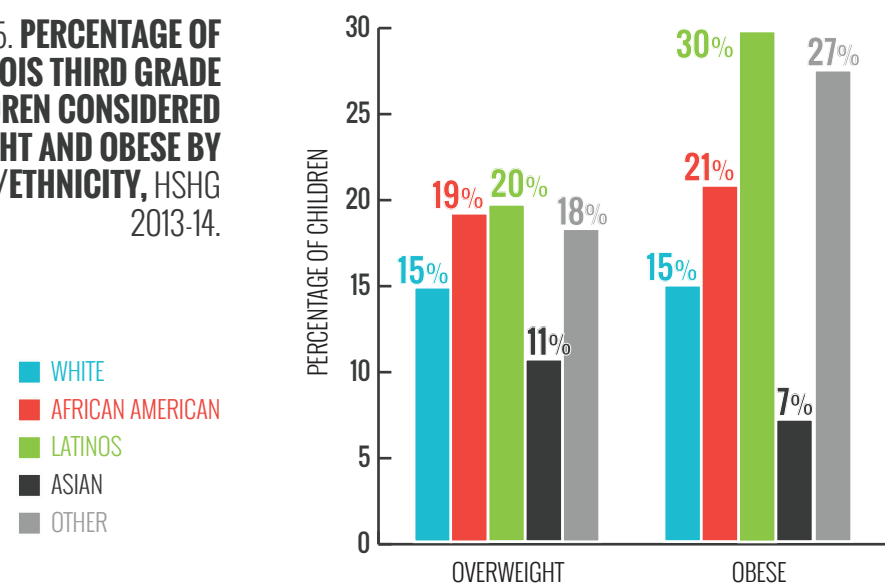
FIGURE 14. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WITH DENTAL SEALANTS PRESENT BY SELECTED REGIONS IN ILLINOIS, HSHG 2013-14.



Detailed findings on the oral health status of third grade children by Illinois public health regions (Table 7) or by other social determinants of health such as dental insurance status (Table 8) can be found in the Data Tables section. Findings should be interpreted with caution as some of the regions have a small representation in the sample.

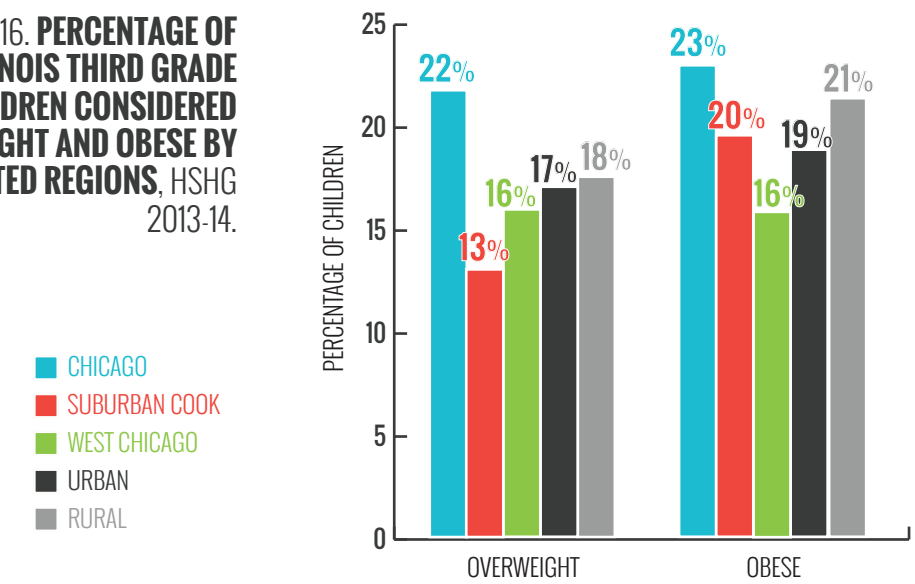
Growth Inequalities

FIGURE 15. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN CONSIDERED OVERWEIGHT AND OBESE BY RACE/ETHNICITY, HSHG 2013-14.



Important disparities exist in Illinois regarding the percentage of children classified as overweight/obese. Latino children seems to be the group that is most affected by this epidemic. Almost 50% of Latino third graders are considered either overweight or obese (Figure 15), followed by Other (45%) and African American children (40%).

FIGURE 16. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN CONSIDERED OVERWEIGHT AND OBESE BY SELECTED REGIONS, HSHG 2013-14.



Children living in the City of Chicago (45%) presented the highest proportion of overweight/obese children, followed by children living in rural Illinois (39%). The proportion of overweight/obese third grade children in Chicago increased from 42% in HSHG 2008-09 to 45% in the present survey.

Disparities also exist among children eligible for FRMP and non-eligible children (Table 8): 44% of third grade children eligible for FRMP are either overweight or obese as compared to 26% of non-eligible children.



CONCLUSIONS

Results from HSHG 2013-14 revealed positive trends for the oral health and growth status of third grade children in Illinois. Important decreases in the proportion of children affected by untreated decay and increases in the proportion of children with dental sealants suggest that Illinois prevention programs are working to improve the oral health status of children. It is contextually important to mention also that Illinois has a water fluoridation statute that impacts all public water supplies. There were slight decreases in the rates of overweight and obese children in the state but important disparities by race/ethnicity. Targeted community efforts should be made to accelerate progress in obesity prevention efforts.

Study finding reported here show that Illinois has met and exceeded the target objectives for untreated decay and dental sealants present, but still need progress in objectives related to caries experience and obesity. Prevention of dental caries in young children is a key component to decreasing caries experience for school-age populations. However, trends over the last 10 years show that Illinois is moving in the right direction to achieve these goals. Following recommendations of year-one first dental visit, application of fluoride varnish in primary care settings for children at high risk of dental caries, and education of parents and children that will create healthy habits from an early age can have a great impact in improving health outcomes for Illinois children.

Trends over the last 10 years in Suburban Cook County show a decline in the proportion of third grade children with dental sealants present (23% (2004), 18% (2014)) as compared to most regions in the state where dental sealants have almost doubled. Concerted efforts should be made to restore the dental sealant program in this region as many children can benefit from such a program.

Social determinants of health such as race/ethnicity, SES, geographic location, access to healthy food and health insurance, among others, affect children's vulnerability to dental caries and obesity. Additionally, these and other factors limit access to appropriate care becoming ultimately the drivers for health inequalities. In order to overcome health disparities in the future, it is important to incorporate social determinants of health into prevention programming. Policy makers, stakeholders, public health workers, and community leaders in Illinois are called to identify disparities affecting vulnerable groups of children through population-based data such as HSHG and direct resources to develop targeted interventions to bridge the gap and attain the best health outcomes for Illinois children.

DATA TABLES

TABLE 3: **DEMOGRAPHIC CHARACTERISTICS OF PARTICIPATING THIRD GRADE CHILDREN, HSHG 2013-2014, ILLINOIS (UNWEIGHTED)**

VARIABLE		PERCENT OR MEAN (SE)
GENDER (N=3,743)	MALE	48.1
	FEMALE	51.9
AGE (N=3,751)	8 YEARS	4.5
	9 YEARS	91.0
	10 YEARS	4.5
	MEAN (SE)	9 (0.010)
RACE (N=2,655)	WHITE	70.1
	AFRICAN AMERICAN	13.9
	ASIAN	8.9
	OTHER	7.1
ETHNICITY (N=2,443)	LATINO	42.2
	NON-LATINO	57.8
ELIGIBLE FOR FMRP (N=3,432)		52.3
PRIMARY LANGUAGE SPOKEN AT HOME (N=3,297)	ENGLISH	72.1
	SPANISH	20.7
	OTHER	7.2
HAVE DENTAL INSURANCE (N=3,384)		84.6
URBANICITY (N=3,772)	URBAN	87.7
	RURAL	12.3
STATE'S REGION (N=3,772)	CHICAGO	22.6
	SUBURBAN COOK COUNTY	11.6
	WEST CHICAGO	43.7
	ROCKFORD	2.7
	PEORIA	4.3
	CHAMPAIGN	4.9
	EDWARDSVILLE	6.9
	MARION	3.2

TABLE 4: **DENTAL MEASURES FOR PARTICIPATING THIRD GRADE CHILDREN IN ILLINOIS, 2013-2014.**

VARIABLE	FREQUENCY	95% CI
UNTREATED DECAY	22.2%	19.9 - 24.7
TREATED DECAY	43.1%	40.1 - 46.3
CARIES EXPERIENCE	52.4%	49.3 - 55.4
TREATMENT URGENCY		
EARLY CARE	19.9%	17.7 - 22.3
URGENT CARE	2.0%	1.3 - 3.0
RAMPANT DECAY	4.1%	3.2 - 5.3
DENTAL SEALANTS PRESENT	49.8%	46.4 - 53.2

TABLE 5: **BMI-FOR-AGE CUTOFFS BY GENDER OF THIRD GRADE CHILDREN, HSHG 2013-14, ILLINOIS.**

VARIABLE	MALES % (95% CI) N = 1,765	FEMALES % (95% CI) N = 1,919	BOTH GENDERS (95% CI) N = 3,684
UNDERWEIGHT < 5 TH PERCENTILE	2.3 (1.6-3.3)	2.7 (1.9-3.8)	2.5 (1.9-3.2)
HEALTHY WEIGHT 5 TH TO < 85 TH PERCENTILE	60.3 (56.6-64.0)	62.0 (58.5-65.3)	61.2 (58.2-64.1)
OVERWEIGHT 85 TH TO < 95 TH PERCENTILE	15.8 (13.9-18.1)	18.2 (15.6-21.1)	17.1 (15.3-19.0)
OBESE ≥ 95 TH PERCENTILE	21.5 (18.9-24.4)	17.2 (14.7-19.9)	19.2 (17.2-21.4)

TABLE 6: **ORAL HEALTH STATUS OF ILLINOIS THIRD GRADE CHILDREN BY RACE/ETHNICITY**, HSHG 2013-14.

VARIABLE	WHITE% (95% CI)	AFRICAN AMERICAN % (95% CI)	LATINOS % (95% CI)	ASIAN % (95%CI)	OTHER % (95%CI)
UNTREATED DECAY	19.5 (16.6-22.9)	29.4 (22.3-37.9)	21.0 (17.2-25.5)	27.0 (20.5-34.4)	21.0 (13.4-34.4)
TREATED DECAY	38.5 (35.0-42.1)	38.3 (29.6-47.8)	51.3 (46.6-56.0)	40.9 (31.3-51.3)	46.7 (38.3-55.3)
CARIES EXPERIENCE	46.7 (43.1-50.3)	53.7 (44.6-62.5)	58.0 (53.5-62.9)	54.9 (45.4-64.0)	52.7 (43.7-61.6)
TOTAL TREATMENT NEED	18.8 (15.5-23.1)	29.1 (21.1-40.5)	20.5 (16.4-25.9)	28.1 (20.4-38.8)	20.6 (11.8-35.2)
RAMPANT DECAY	3.1 (2.2-4.4)	4.6 (2.6-7.8)	4.7 (3.1-7.1)	8.4 (4.5-15.0)	8.1 (4.3-14.7)
DENTAL SEALANTS PRESENT	49.1 (44.8-53.4)	39.2 (31.7-47.2)	56.3 (50.3-62.1)	49.1 (39.4-58.8)	51.1 (42.9-59.3)

TABLE 7: **ORAL HEALTH STATUS OF ILLINOIS THIRD GRADE CHILDREN BY ILLINOIS PUBLIC HEALTH REGIONS**, HSHG 2013-14.

VARIABLE	CHICAGO % (95% CI)	SUBURBAN COOK % (95% CI)	WEST CHICAGO % (95% CI)	ROCKFORD % (95%CI)	PEORIA % (95%CI)	CHAMPAIGN % (95% CI)	EDWARDSVILLE % (95%CI)
UNTREATED DECAY	17.2 (13.4-21.8)	36.1 (28.8-44.0)	15.1 (12.9-17.7)	37.9 (28.1-48.8)	25.5 (11.8-46.7)	33.5 (28.9-38.5)	21.9 (14.9-31.0)
TREATED DECAY	41.1 (33.1-49.6)	49.3 (42.3-56.4)	35.2 (29.9-41.0)	86.8 (84.8-88.7)	51.2 (45.6-56.7)	41.8 (30.3-54.4)	43.1 (34.2-52.4)
CARIES EXPERIENCE	50.5 (43.4-57.5)	61.5 (51.8-70.3)	42.0 (37.1-47.1)	88.4 (87.8-89.1)	61.5 (53.7-68.7)	55.5 (42.0-68.2)	55.7 (45.9-65.1)
TOTAL TREATMENT NEED	17.4 (13.4-23.0)	36.6 (27.0-50.7)	14.7 (12.3-17.8)	37.2 (26.5-53.1)	23.3 (9.6-51.0)	44.5 (21.5-52.5)	21.3 (13.6-32.8)
RAMPANT DECAY	4.4 (2.9-6.6)	6.9 (3.8-12.1)	2.6 (1.5-4.5)	7.6 (4.8-12.0)	1.8 (0.2-12.4)	11.2 (5.7-21.0)	2.4 (0.6-9.5)
DENTAL SEALANTS PRESENT	57.2 (49.9-64.2)	18.2 (11.2-28.3)	59.8 (54.1-65.2)	54.7 (39.7-68.8)	47.6 (31.8-63.8)	65.7 (52.2-77.1)	47.3 (38.3-56.6)

Note: Findings should be interpreted with caution as some of the regions have a small representation in the sample.

TABLE 8: **ORAL HEALTH STATUS OF ILLINOIS THIRD GRADE CHILDREN BY ELIGIBILITY TO FRMP, DENTAL INSURANCE STATUS, AND URBANICITY**, HSHG 2013-14.

VARIABLES	UNTREATED DECAY % (95% CI)	TREATED DECAY % (95% CI)	CARIES EXPERIENCE % (95% CI)	TOTAL TREATMENT NEED % (95%CI)	RAMPANT DECAY % (95%CI)	DENTAL SEALANTS PRESENT % (95%CI)
ELIGIBILITY FRMP						
ELIGIBLE	26.3 (23.0-30.0)	48.1 (43.8-52.4)	58.9 (55.1-62.6)	26.0 (22.1-30.4)	5.5 (4.3-7.1)	48.7 (44.1-53.3)
NON- ELIGIBLE	16.4 (13.2-20.1)	35.0 (30.7-39.5)	41.6 (36.9-46.4)	16.2 (12.8-20.4)	2.0 (1.1-3.4)	51.3 (46.6-55.9)
DENTAL INSURANCE STATUS						
YES	20.9 (18.3-23.6)	42.8 (39.6-46.1)	51.1 (47.8-54.4)	20.5 (17.4-24.0)	4.2 (3.2-5.4)	51.9 (48.1-55.7)
NO	26.5 (21.3-32.7)	39.5 (32.8-46.6)	51.2 (44.8-57.7)	26.7 (20.5-34.9)	2.5 (1.3-4.8)	38.4 (32.6-44.6)
URBANICITY						
URBAN	20.6 (18.2-23.3)	42.5 (38.7-46.4)	50.8 (47.1-54.5)	20.2 (17.3-23.9)	3.9 (2.9-5.3)	50.5 (46.9-54.1)
RURAL	30.2 (23.2-38.3)	46.2 (39.7-52.8)	59.9 (53.8-65.7)	30.2 (21.6-43.2)	4.7 (2.8-7.9)	46.5 (37.2-56.1)

TABLE 9: **OVERWEIGHT AND OBESE STATUS OF ILLINOIS THIRD GRADE CHILDREN BY RACE/ETHNICITY, ELIGIBILITY FOR FRMP, AND ILLINOIS PUBLIC HEALTH REGION**, HSHG 2013-14.

RACE ETHNICITY	OVERWEIGHT % (95% CI)	OBESE % (95% CI)
WHITE	14.8 (12.5-17.3)	14.9 (12.6-17.6)
AFRICAN AMERICAN	19.1 (14.4-24.9)	20.7 (16.2-26.0)
LATINOS	19.6 (16.9-22.6)	29.7 (26.6-33.0)
ASIAN	10.6 (5.8-18.6)	7.1 (4.6-10.7)
OTHER	18.2 (11.6-27.5)	27.4 (18.9-37.9)

Note: Findings should be interpreted with caution as some of the regions have a small representation in the sample.

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