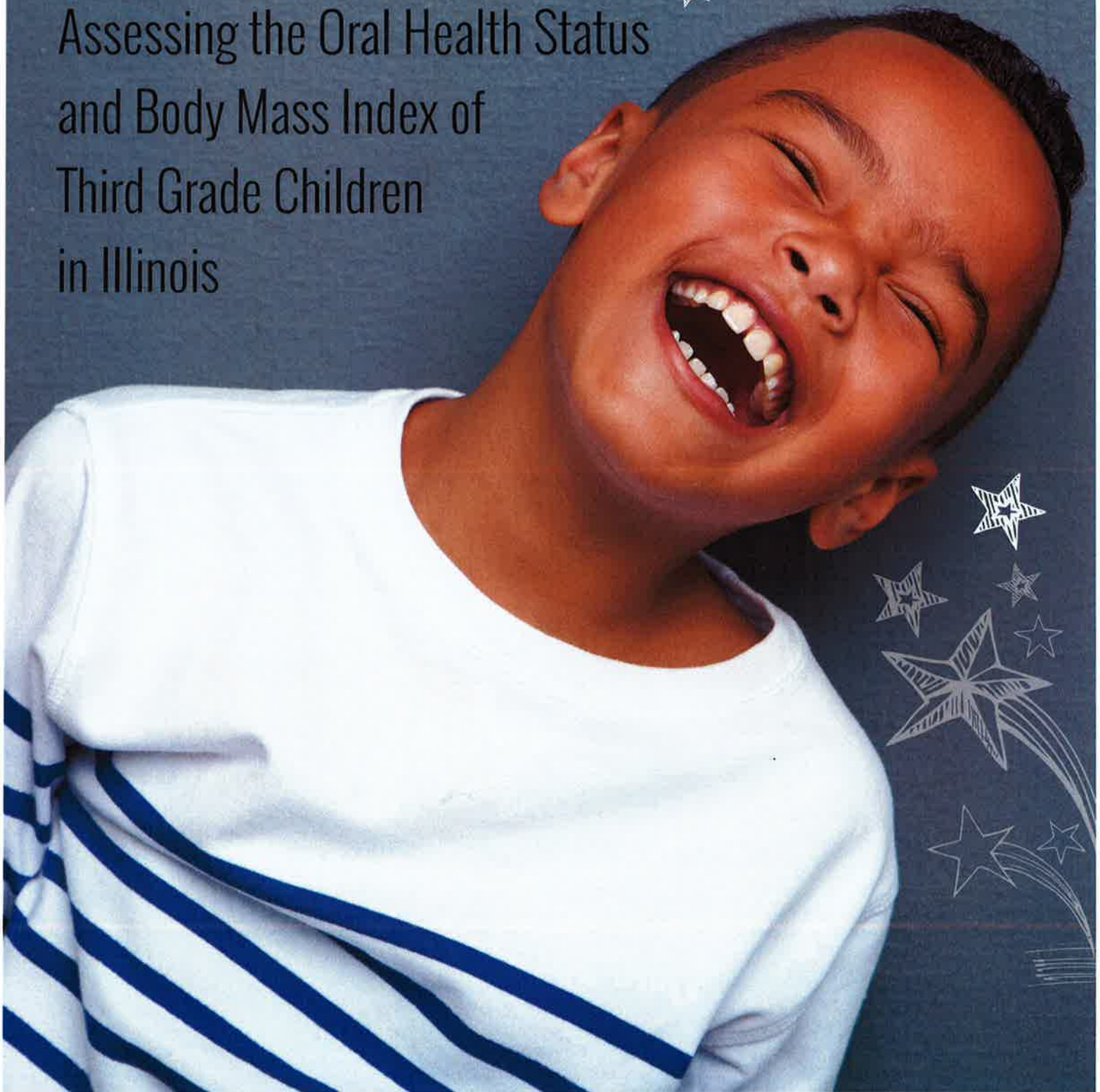


# HEALTHY SMILES, HEALTHY GROWTH

## 2013-2014:

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





# 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.



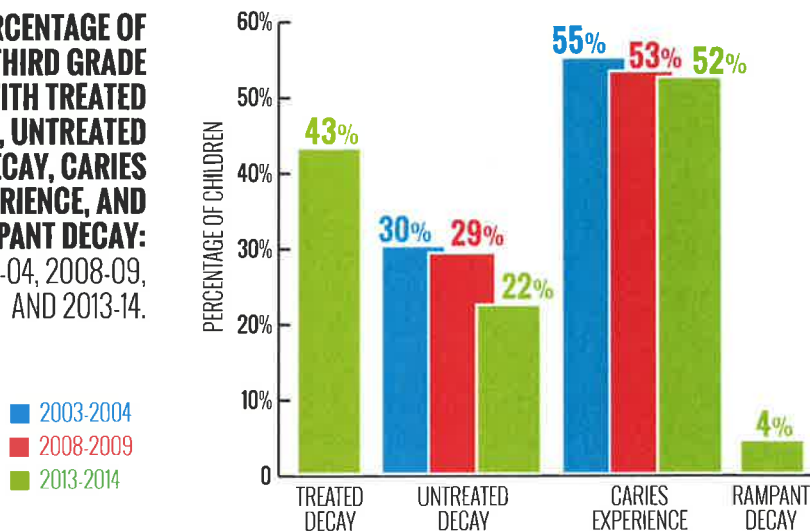
Dentists and dental hygienists attended a hands-on calibration session which included a review of dental diagnostics criteria and standard protocols to collect and record the height and weight measures. Standardized and calibrated scales and stadiometers provided by the Illinois Department of Public 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
<b>UNTREATED DECAY</b>	The presence of a dental caries in which the screener can readily observe breakdown of the enamel surface. Only cavitated lesions were considered untreated decay.
<b>TREATED DECAY</b>	The presence of any type of filling, including a temporary filling. Teeth that were extracted as a result of decay were also included.
<b>CARIES EXPERIENCE</b>	Children with treated decay, untreated decay, or both.
<b>DENTAL SEALANTS ON PERMANENT MOLARS</b>	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.
<b>URGENCY OF NEED FOR DENTAL CARE</b>	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.
<b>RAMPANT DECAY</b>	Children with seven or more teeth with untreated and/or treated decay.
<b>HEIGHT</b>	Stature of the child was recorded to the nearest .25 inches (rounded up to nearest quarter).
<b>WEIGHT</b>	Weight measures were recorded to the nearest 10th of a pound (000.0).

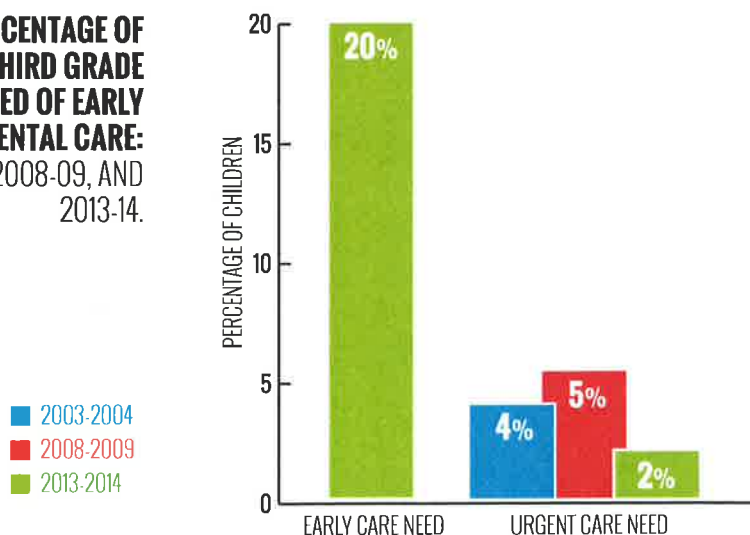


**FIGURE 3. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WITH TREATED DECAY, UNTREATED DECAY, CARIES EXPERIENCE, AND RAMPANT DECAY:**  
HSHG 2003-04, 2008-09, AND 2013-14.

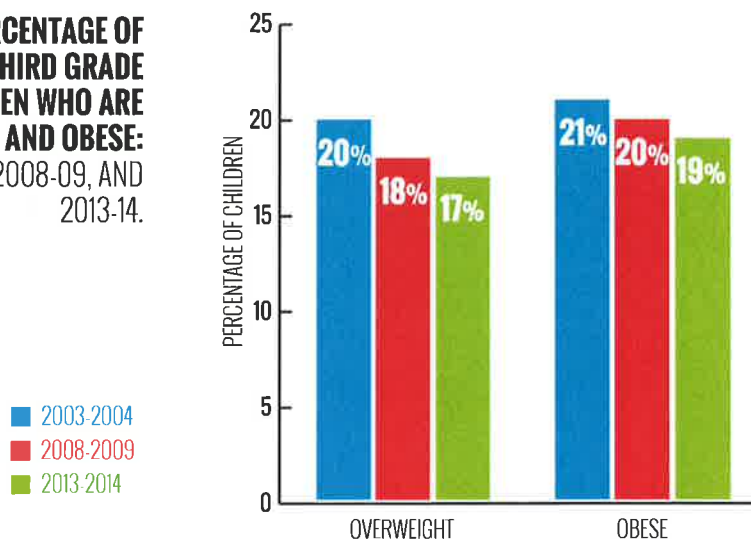


Results from the 2013-14 survey in Illinois showed that more than half (52%) of third grade children had caries experience and around 1 out of 5 had untreated decay (Figure 3). In addition, 43% of children had treated decay and 4% of third graders had 7 or more teeth with dental cavities and/or dental 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.

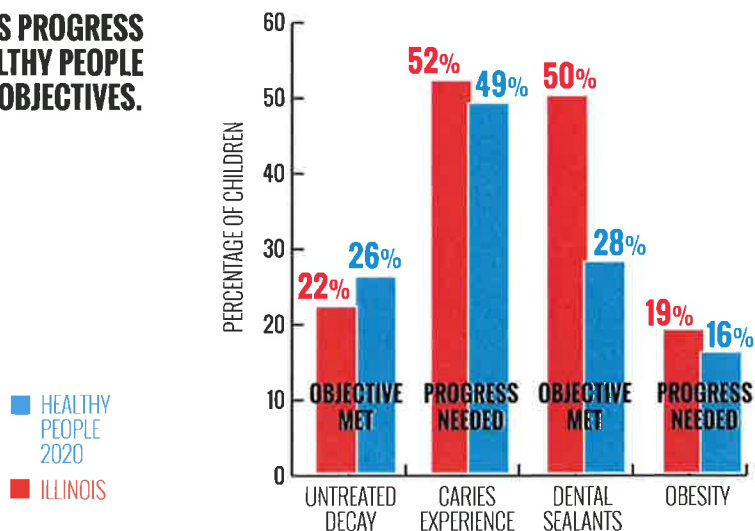


**FIGURE 6. PERCENTAGE OF ILLINOIS THIRD GRADE CHILDREN WHO ARE OVERWEIGHT AND OBESE: HSHG 2003-04, 2008-09, AND 2013-14.**



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).

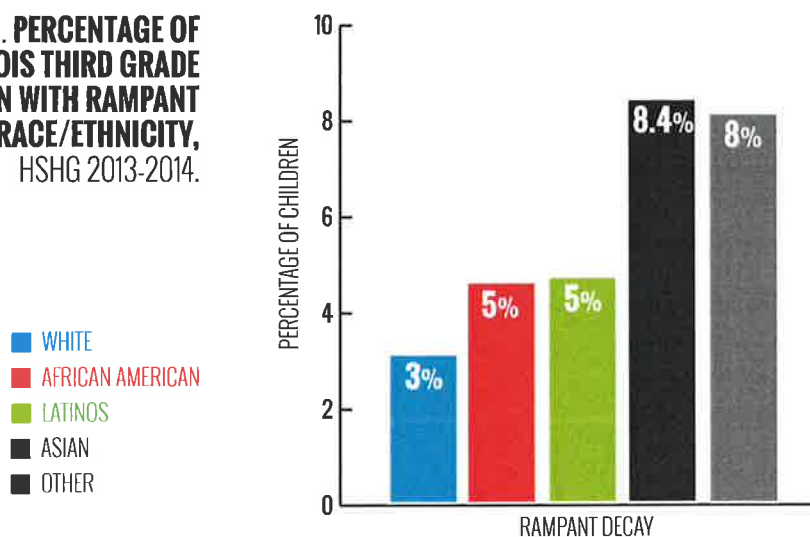
**FIGURE 7. ILLINOIS PROGRESS TOWARD HEALTHY PEOPLE 2020 OBJECTIVES.**





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.**

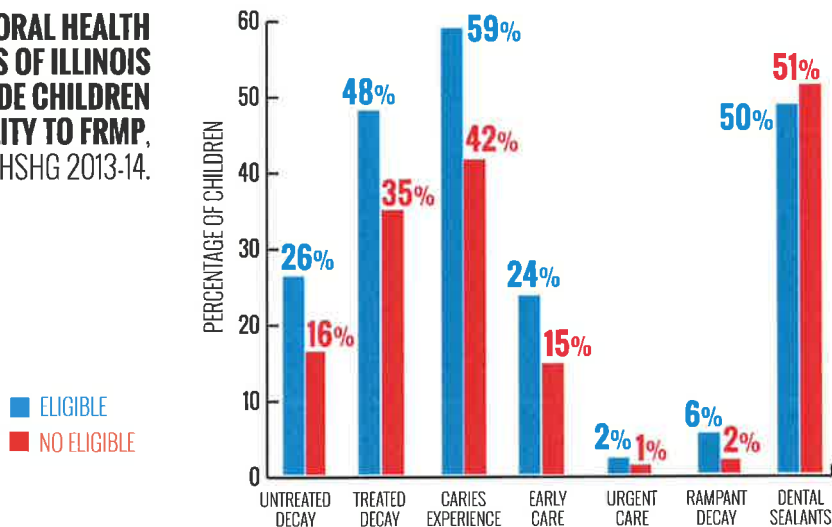


In Illinois, rampant decay, which refers to children with seven or more teeth with untreated and/or treated decay, affects more Asian (8%) and children from the Other group (8%).

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.

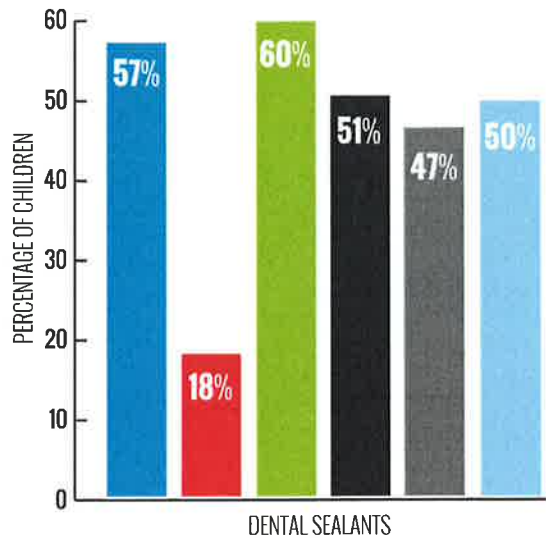
**FIGURE 12. ORAL HEALTH STATUS OF ILLINOIS THIRD GRADE CHILDREN BY ELIGIBILITY TO FRMP, HSHG 2013-14.**



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

- CHICAGO
- SUBURBAN COOK
- WEST CHICAGO
- URBAN
- RURAL
- ILLINOIS

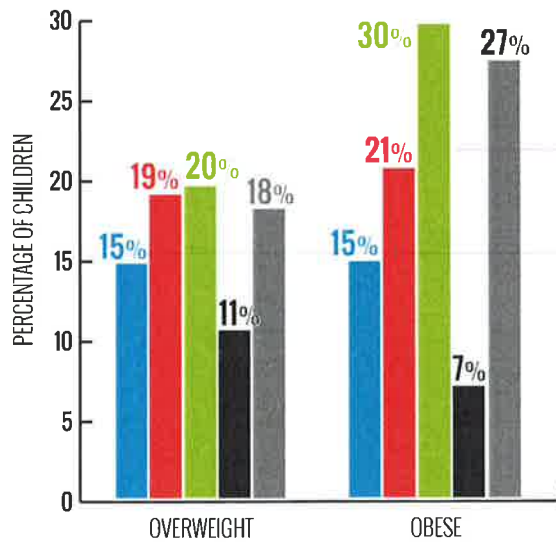


Detailed findings on the oral health status of third grade children by Illinois public health regions (Table 7) or by other social determinants of health such as dental insurance status (Table 8) can be found in the Data Tables section. Findings should be interpreted with caution as some of the regions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

- WHITE
- AFRICAN AMERICAN
- LATINOS
- ASIAN
- OTHER



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%).



## DATA TABLES

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

VARIABLE		PERCENT OR MEAN (SE)
<b>GENDER (N=3,743)</b>	MALE	48.1
	FEMALE	51.9
<b>AGE (N=3,751)</b>	8 YEARS	4.5
	9 YEARS	91.0
	10 YEARS	4.5
	MEAN (SE)	9 (0.010)
<b>RACE (N=2,655)</b>	WHITE	70.1
	AFRICAN AMERICAN	13.9
	ASIAN	8.9
	OTHER	7.1
<b>ETHNICITY (N=2,443)</b>	LATINO	42.2
	NON-LATINO	57.8
<b>ELIGIBLE FOR FMRP (N=3,432)</b>		52.3
<b>PRIMARY LANGUAGE SPOKEN AT HOME (N=3,297)</b>	ENGLISH	72.1
	SPANISH	20.7
	OTHER	7.2
<b>HAVE DENTAL INSURANCE (N=3,384)</b>		84.6
<b>URBANICITY (N=3,772)</b>	URBAN	87.7
	RURAL	12.3
<b>STATE'S REGION (N=3,772)</b>	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 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)
<b>UNTREATED DECAY</b>	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)
<b>TREATED DECAY</b>	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)
<b>CARIES EXPERIENCE</b>	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)
<b>TOTAL TREATMENT NEED</b>	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)
<b>RAMPANT DECAY</b>	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)
<b>DENTAL SEALANTS PRESENT</b>	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.

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