



A Comparison of Disparities in Access to Preventive Dental Care Among Children with Special Health Care Needs in the United States



National Center on the Ease of Use of Community Based Services
Communitybasedservices.org

Funded by the Maternal and Child Health Bureau (MCHB), Health Resources and Services Administration (HRSA) and the National Institute on Disability Rehabilitation and Research (NIDRR), U.S. Department of Education



Project Director

Center's Mission



The Center will advance policy and practice solutions that improve the ease of use of community based services for families with a child with special health care needs



The Four Domains Ease of Use Framework

Community Based Services for Children and Youth with Special Health Care Needs will be easy for families to use if they are:

Universal
Accessible
Valuable
Affordable



UNIVERSAL---Community based services will be easy to use if ALL eligible families and children are identified early, referred successfully and know where and how to get started.

ACCESSIBLE-Families, youth, and children can find, get, and use all of the community based services that they need.

Valuable_Services are valued by families, children and youth and produce measurable gains in functioning and development

Affordable: Direct and indirect costs of services are affordable and enable families to maintain economic security.

Why focus on oral health?

Concern of AMCHP, PACER, Family Voices
& AAP

Significant disparities

Availability of data

Oral health very important for CSHCN

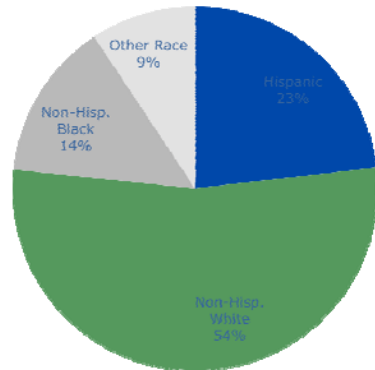
National Survey of Children with Special Health Care Needs 2009- 2010

[HTTP://WWW.CHILDHEALTHDATA.ORG/](http://www.childhealthdata.org/)



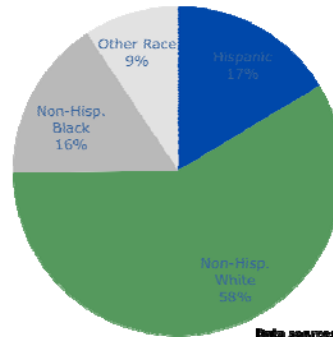
Overall Sample Characteristics

Ethnic-Race Distribution of Children Under 18 years old in the U.S.



Data source: American Community Survey 2010

Ethnic-Race Distribution of Children with Special Health Care Needs in the U.S.



Data source: 2000-2010 NS-CSHCN

Dependent Variable: ALL Preventive Dental Care

Yes

When respondents indicated that their children received ALL needed dental care for the past 12 months.

No

When respondents indicated that their children received none, or some, or they believed their children didn't need dental care for the past 12 months.

*Parents knowledge about dental care needs of child

Independent Variables

Disability Type

Developmental	Autism spectrum disorders, Down syndrome, mental retardation or developmental delay, and cerebral palsy.
Mental Health	Attention deficit hyperactivity disorder, depression, anxiety and emotional problems.
Physical	Asthma, diabetes, heart or blood conditions, cystic fibrosis, muscular dystrophy, seizures.
Multiple	Belong to more than one health condition group.
Other	Not having any of the health conditions but passed the CSHCN screener.

* Same disability categories used by Nageswaran, Parish, Rose & Grady (2011)



Nageswaran, Parish, Rose & Grady (2011)

. it is a dummy variable (1=yes . When respondents indicated that their children received ALL needed dental care for the past 12 months; 0=no. When respondents indicated that their children received none, or some, or they believed their children didn't need dental care for the past 12 months.)

Other variables:

Age
Race
Gender
Poverty Level
Type of insurance
Parents' education level
Language other than English spoken at home

Table 1. All Dental Care controlling for age, gender, and race

All Dental Services	Odds Ratio	P>t	[95% Conf.	Interval]
age0_11m	0.003	0.000	0.001	0.007
age15y_above	1.157	0.054	0.998	1.341
male	0.938	0.221	0.848	1.039
nh_bblack	0.627	0.000	0.546	0.720
otherrace	0.779	0.004	0.656	0.925
hispanics	0.681	0.000	0.586	0.793

We controlled for Age, Gender and Race.

-Latinos less likely than Whites to get all of their dental care. Their expected odds is 32% lower than whites to get all of their dental care

-Blacks less likely than Whites to get all of their dental care. Their expected odds 37% lower than Whites.

Other races: Less likely than white. Expected odds is 23% lower than Whites.

Males-Less likely than females to get dental care. Expected odds 6-7% less than females. (This is not significant)

Age-less than a year old-very unlikely to go to dentist. Their expected odds of receiving all dental care , which is approximated 0, is almost 100% lower than their counter-parts aged between 4-15.

Table 2: All Dental Care controlling for age, gender, race, and disability type

All Dental Services	Odds Ratio	P>t	[95% Conf.	Interval]
age0_11m	0.003	0.000	0.001	0.008
age15y_above	1.135	0.095	0.978	1.317
male	0.926	0.142	0.836	1.026
nh_bblack	0.619	0.000	0.539	0.712
otherrace	0.777	0.004	0.654	0.924
hispanics	0.697	0.000	0.600	0.811
dd	0.548	0.000	0.429	0.701
mh	1.356	0.004	1.104	1.665
other_d	0.630	0.000	0.524	0.758
multi_d	0.984	0.781	0.881	1.099

We added type of disabilities as control variables.

Dev Disability: less likely than those with only physical disability to get all dental care. Expected odds is 45% lower than those with physical.

Other disability: less likely to get dental care. Expected odds is 37% lower than physical disability only

Other patterns such as Latinos, Blacks –overall remain the same-less likely than reference group to get all dental care

Mental health-more likely to get all needed dental care than their counterparts with only physical disability. Their expected odds is 36% higher.

Table 3. All Dental Care controlling for age, gender, race, disability type, and parents education

all_dent_c~e	Odds Ratio	P>t	[95% Conf.	Interval]
age0_11m	0.003	0.000	0.001	0.008
age15y_above	1.152	0.062	0.993	1.338
male	0.927	0.155	0.836	1.029
nh_bblack	0.686	0.000	0.595	0.790
otherrace	0.792	0.010	0.664	0.945
hispanics	0.833	0.022	0.713	0.975
dd	0.550	0.000	0.427	0.707
mh	1.402	0.002	1.133	1.734
other_d	0.649	0.000	0.537	0.783
multi_d	1.030	0.603	0.921	1.153
hse_ed_lths	0.543	0.000	0.451	0.653
hse_ed_hsg~d	0.655	0.000	0.578	0.741

Model 3: We added Parent's education as control variables.

Parents had Less than HS grad.-less likely to get all dental care. Expected odds were 46% lower than for parents with more than HS education

HS grad-also less likely to get all dental care. Expected odds were 35% lower than for those parents with more than HS education.

Overall—other patterns remain the same in terms of Latinos, Blacks, , other races

Table 4. All Dental Care controlling for age, gender, race, disability type, parents education, and federal poverty levels

all_dent_care	Odds Ratio	P>t	[95% Conf.	Interval]
age0_11m	0.003	0.000	0.001	0.008
age15y_above	1.114	0.188	0.949	1.307
male	0.919	0.132	0.822	1.026
nh_black	0.828	0.016	0.710	0.965
otherrace	0.866	0.133	0.717	1.045
hispanics	0.957	0.609	0.808	1.133
dd	0.600	0.000	0.464	0.776
mh	1.442	0.001	1.152	1.804
other_d	0.652	0.000	0.532	0.798
multi_d	1.122	0.065	0.993	1.269
hse_ed_lths	0.786	0.027	0.636	0.973
hse_ed_hsg~d	0.908	0.195	0.785	1.051
pl0_100	0.395	0.000	0.331	0.471
pl100_200	0.440	0.000	0.377	0.513
pl_201_300	0.488	0.000	0.413	0.576



Model 4: Federal Poverty level indicators are added as control variables.

Federal poverty level 0-100%-Less likely to get all dental care. Expected odds were 60% lower than for those in FPL 300% and above.

FPL 100-200%-less likely to get all dental care. Expected odds were 56% lower than for those FPL 300% and above.

FPL 200-300%-less likely to get all dental care. Expected odds were 51% lower than for those in the 301-400%FPL

Pattern for Latinos changes here—no longer significant. However, for Blacks, still significant-with expected odds being 17% less likely than whites to get all dental care

Male-no longer significant

Dev Disability-remains significant with an expected odds 40% lower than physical disability only to get all dental care

Dev Disability-remains significant with an expected odds 40% lower than physical disability only to get all dental care

Other disability-remains significant with expected odds 35% lower than for those with only physical disability

HS education-no longer significant

Less than HS education-still significant with expected odds 22% lower than those with above HS education to get all dental care

Table 5. All Dental Care Controlling for Insurance Status

all_dent_care	Odds Ratio	P>t	[95% Conf.	Interval]
age0_11m	0.003	0.000	0.001	0.007
age15y_above	1.138	0.091	0.980	1.321
male	0.922	0.134	0.830	1.025
nh_bblack	0.775	0.001	0.669	0.899
otherrace	0.844	0.062	0.706	1.009
hispanics	0.930	0.379	0.791	1.093
dd	0.575	0.000	0.450	0.735
mh	1.451	0.001	1.170	1.799
other_d	0.664	0.000	0.548	0.805
multi_d	1.122	0.048	1.001	1.258
hse_ed_lths	0.710	0.000	0.587	0.860
hse_ed_hsg~d	0.809	0.003	0.704	0.930
pub_ins	0.569	0.000	0.498	0.651
pripub_ins	0.720	0.001	0.590	0.878
other_ins	0.721	0.024	0.543	0.958
no_ins	0.211	0.000	0.165	0.270

We took out the FPL and put in Insurance status as control variables.

No insurance—less likely than those privately insured to get all dental care. Expected odds are 79% lower than for those with private insurance

Other Insurance-less likely than private. Expected odds 18% lower than for those with private insurance

Private and Public insurance-less likely to get all dental care. Expected odds are 17% lower than for private insurance.

Public insurance-Less likely to get dental care. Expected odds are 44% lower than privately insured that they get all dental care.

Blacks remain less likely to get all dental care. Expected odds are 23% lower than for Whites.

Dev Disability less likely to get all dental care. Expected odds 43% lower than for physical disabilities

Other disability less likely to get all dental care. Expected odds 34% lower than for physical disability

Less than HS-less likely to get all dental care. Expected odds 29% lower than those with more than HS education

HS Educated—Less likely to get all dental care. Expected odds are 20% lower than those with more than HS education

Table 6. All Dental Care Controlling for Poverty Level and Language Spoken

all_dent_care	Odds Ratio	P>t	[95% Conf.	Interval]
dd	0.587	0.000	0.455	0.758
mh	1.435	0.002	1.146	1.795
other_d	0.656	0.000	0.535	0.804
multi_d	1.134	0.043	1.004	1.281
nh_black	0.835	0.024	0.713	0.976
otherrace	0.874	0.161	0.723	1.055
hispanics	1.071	0.487	0.883	1.299
pl0_100	0.482	0.000	0.385	0.604
pl100_200	0.524	0.000	0.432	0.635
pl_201_300	0.530	0.000	0.445	0.631
pub_ins	0.778	0.008	0.647	0.937
prpub_ins	0.920	0.458	0.737	1.148
other_ins	0.753	0.055	0.563	1.006
no_ins	0.282	0.000	0.214	0.371
non_Eng_hse	0.826	0.197	0.618	1.104

We put the FPL back in to the model and added English speaking household status as a control variable.

Whether or not they spoke English did not seem to have an impact on getting all dental care.

When poverty and insurance levels were included in the same model, those with no insurance and public insurance were less likely to get dental care. Public insurance, expected odds was 23% lower than for those with private insurance. No insurance-expected odds were 72% lower than for those with private insurance.

FPL 201-300%-less likely to get dental care. Expected odds were 48% lower than for those in the 300% above FpL

FPL-100-200% were also less likely to get dental care. Expected odds were 48% lower than for those in the 300% above FPL

FPL 10-100%FPL-less likely to get all dental care. Expected odds were 52% lower than for those in 300% above FPL

Other Disability and Dev. Disability also remained as less likely to get all dental care. DD had expected odds that were 42% lower than for those with physical disability. Other disability had an expected odds that was 35% lower than those with physical disability.

Table 7. All Dental Care Controlling for Family Structure, Residential location, Language, Poverty Level, etc...

all_dent_care	Odds Ratio	P>t	[95% Conf.	Interval]
dd	0.582	0.000	0.450	0.752
mh	1.455	0.001	1.161	1.823
other_d	0.657	0.000	0.535	0.806
multi_d	1.146	0.029	1.014	1.294
age0_11m	0.003	0.000	0.001	0.008
age15y_above	1.145	0.096	0.976	1.343
male	0.927	0.182	0.828	1.036
nh_bblack	0.849	0.047	0.723	0.998
otherrace	0.880	0.187	0.727	1.064
hispanics	1.073	0.483	0.882	1.305
hse_ed_lths	0.851	0.144	0.686	1.056
hse_ed_hsgnd	0.936	0.383	0.807	1.086

This is the full model . We added the final set of control variables, family structure and rural/urban residential status.

When we added family structure (single mom), location (rural), and household language, the same overall patterns for insurance, FPL,, Black, age, and disability type remained.

Public insurance and no insurance less likely to get all dental care.

All FPLs lower than 300% FPL were less likely to get all dental care.

Blacks, less likely to get dental care. Expected odds 16% lower than Whites.

Under 1 yr old, less likely to get all dental care.

Other disability and DD less likely to get dental care. Other dis-expected odds was 45% lower than physical disability only and DD expected odds were 42% lower than physical disability.

However, individuals with MH only are more likely to receive all their dental care comparing to individuals with physical disability only. Their expected odds is 46% higher. The reason for this finding can be explained by the following table.

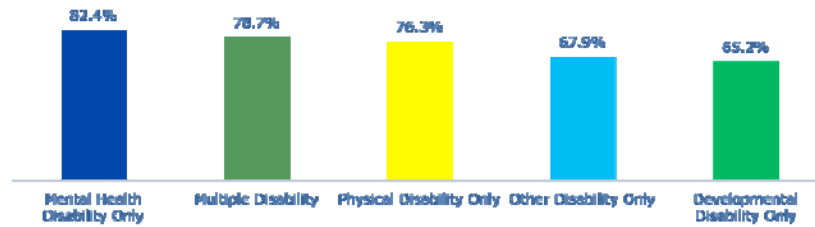
IMPLICATIONS

Mental Health group-were whiter, higher FPL, more privately insured, ages 5-15yrs

Table 7. Continued...

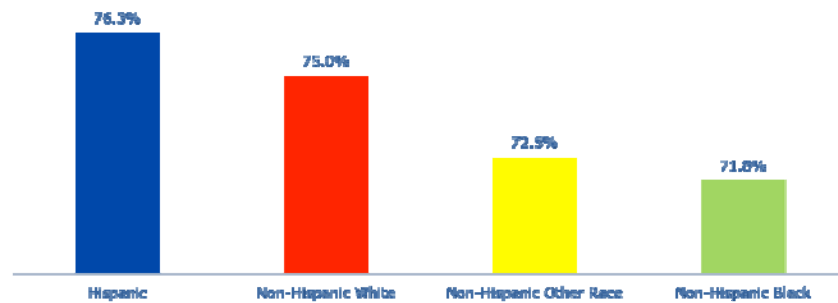
all dent c ^e	Odds Ratio	P>t	[95% Conf.	Interval]
pl0_100	0.500	0.000	0.394	0.634
pl100_200	0.535	0.000	0.439	0.653
pl_201_300	0.537	0.000	0.450	0.641
pub_ins	0.785	0.010	0.653	0.943
pripub_ins	0.924	0.482	0.741	1.152
other_ins	0.755	0.058	0.564	1.010
no_ins	0.283	0.000	0.215	0.372
rural	0.982	0.785	0.862	1.119
single_mom~m	0.903	0.150	0.785	1.038
non_Eng_hse	0.805	0.146	0.601	1.078

Predicted Probabilities of Receiving All Dental Care Services Varied by Types of Disabilities



Pre-determined Characteristics: Age: 4-14 years; Male; Hispanic; Parent(s) less than High School Education; FPL 100-199%; Public Insurance; Urban Area Resident; 2 Parent Family; English Speaking Household

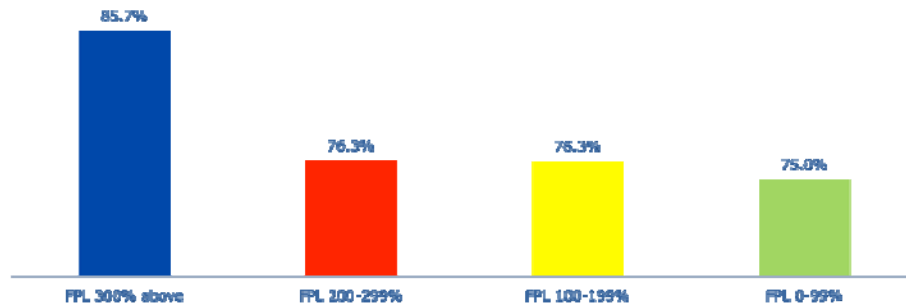
Predicted Probabilities of Receiving All Dental Care Services Varied by Race/Ethnicity



Pre-determined Characteristics: With Physical Disability Only; Age: 4-14 years; Male; Parent(s) less than High School Education; FPL 100-199%; Public Insurance; Urban Area Resident; 2 Parent Family; English Speaking Household

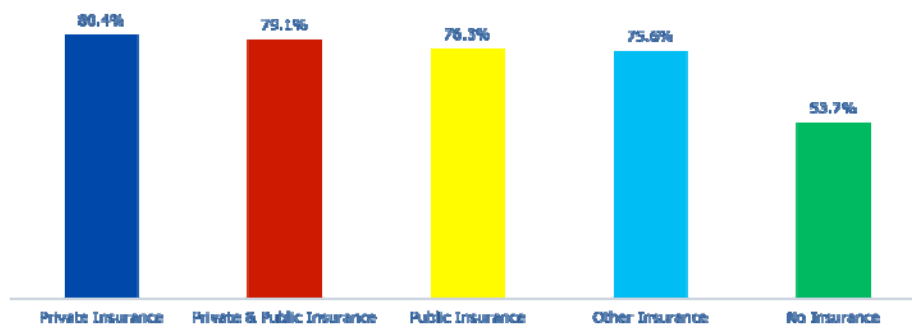
Predicted Probabilities of Receiving All Dental Care Service Varied by Poverty Status

Pre-determined Characteristics: With Physical Disability Only; Age: 4-14 years; Hispanic; Male; Parent(s) less than High School Education; Public Insurance; Urban Area Resident; 2 Parent Family; English Speaking



Predicted Probabilities of Receiving All Dental Care Services Varied by Insurance Status

Pre-determined Characteristics: With Physical Disability Only; Age: 4-14 years; Hispanic; Male; Parent(s) less than High School Education; FPL 100-199%; Urban Area Resident; 2 Parent Family; English Speaking Household



Summary

- More attention needs to be focused on the non-Hispanic Black population and Latinos, children with developmental disabilities
- Increased messaging to parents about dental visit by age 1
- Increased messaging to parents with less than a high school education (low-literacy level, more visual)
- Requiring oral health exam along with health exam for entrance to school
- Address need of those with NO Insurance (ACA?)
- School dental clinics for pre-school and high school students



What matters?

Poverty, insurance status, race, type of disability, parent's education level, and age

Contact Information

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