

Travel Burden and Treatment Characteristics of Children with Special Health Care Needs: A 10-Year Retrospective Study

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Objectives

- To examine the spatial distribution, the travel burden to access dental care, and the treatment characteristics of children with special health care needs (CSHCN) in upstate New York.

Methods

- The retrospective records of CSHCN (<18 years old) receiving care by providers at the Pediatric Dentistry division of Eastman Institute for Oral Health from April 2010 to August 2020 were evaluated.
- The control group included children without SHCN who were selected using a computer-generated random sampling technique from the same department to match the study group in terms of age, gender, and insurance type.

Results

Characteristics	Children with SHCN (n=1409)	Children without SHCN (n=1980)	P-value*
Age (mean ± SD)	13.93 ± 5.78y	13.92 ± 5.98y	0.8850
Gender (number of patients; %)	Male (970; 68.8%) Female (439; 31.2%)	Male (1363; 68.8%) Female (617; 31.2%)	0.9976
Health Insurance (number of patients; %)	Medicaid (571; 40.5%) Private (838; 59.5%)	Medicaid (801; 40.5%) Private (1179; 59.5%)	0.9671
Driving distance in miles Mean ± SD (median)	43.9 ± 45.0 (23.6)	20.7 ± 33.5 (6.5)	<.0001
Driving time in hours Mean ± SD (median)	0.81 ± 0.72 (0.48)	0.43 ± 0.54 (0.22)	<.0001

Conclusion

- CSHCN encounter a statistically significant travel burden to attend dental appointments compared to children without SHCN.
- CSHCN were more likely to attend or cancel, and less likely to fail a dental appointment compared to those without SHCN.
- CSHCN were more likely to require GA appointments, dental extractions and less likely to require restorative treatment compared to those without SHCN.

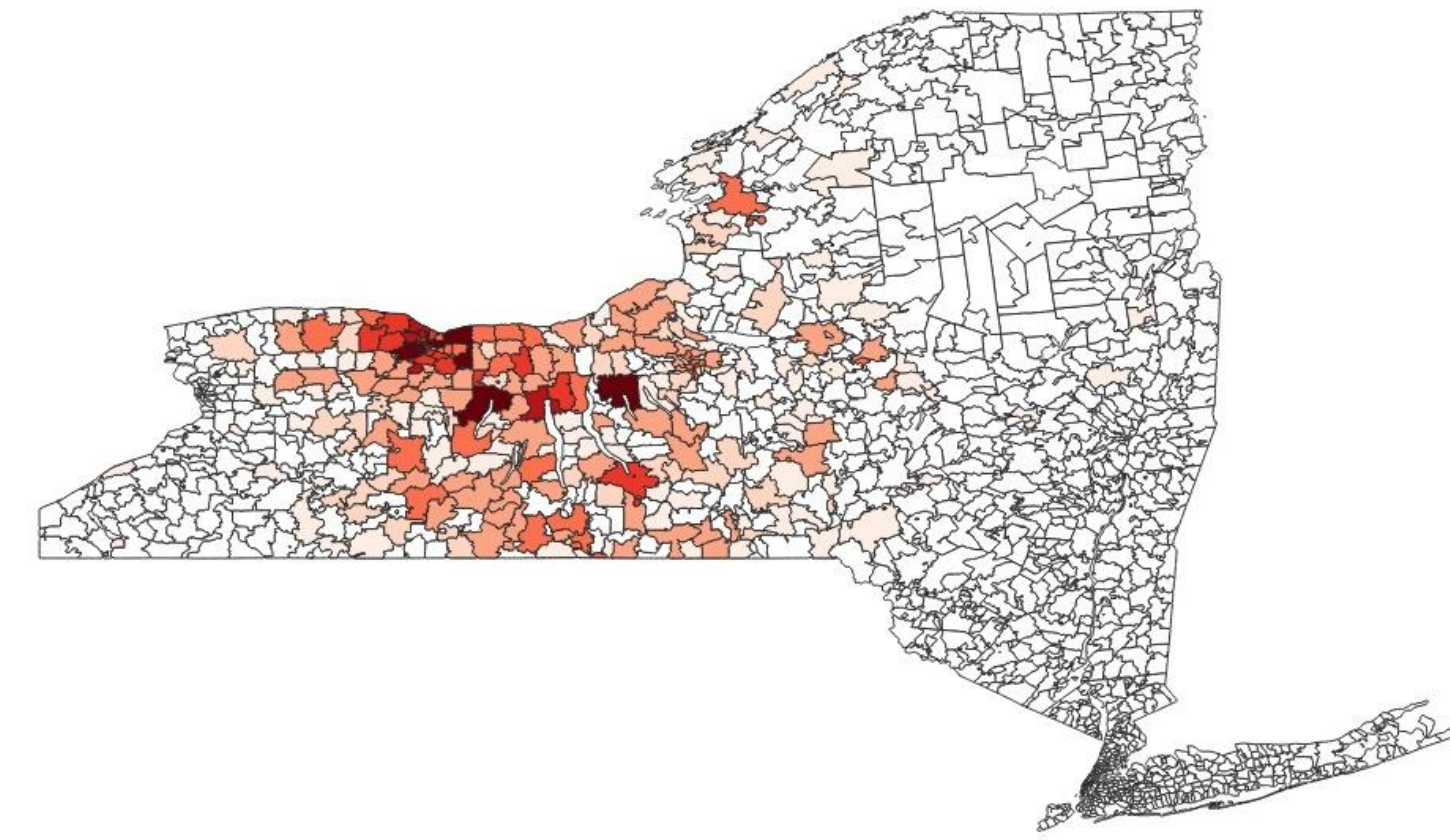


Figure 1. Spatial distribution of CSHCN per zip code.

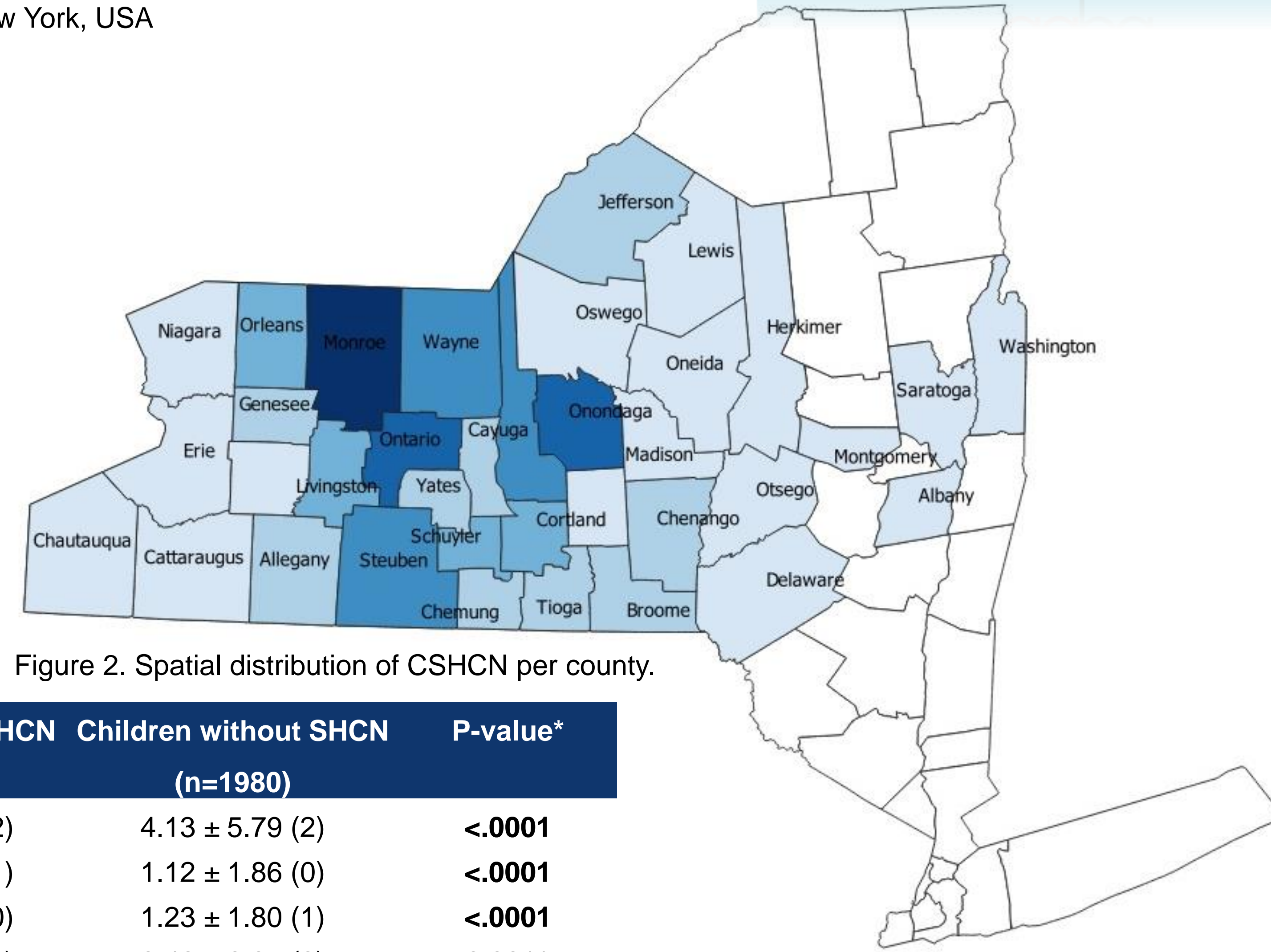


Figure 2. Spatial distribution of CSHCN per county.

Types of Appointment	Children with SHCN (n=1409)	Children without SHCN (n=1980)	P-value*
Mean ± SD (median)			
Checked out	4.56 ± 5.70 (2)	4.13 ± 5.79 (2)	<.0001
Cancelled	1.47 ± 2.13 (1)	1.12 ± 1.86 (0)	<.0001
Failed	0.77 ± 1.37 (0)	1.23 ± 1.80 (1)	<.0001
Emergency	0.42 ± 1.02 (0)	0.46 ± 0.95 (0)	0.0011
General anesthesia	0.52 ± 0.75 (0)	0.17 ± 0.50 (0)	<.0001
Nitrous oxide	0.30 ± 0.97 (0)	0.34 ± 1.08 (0)	0.9475
Examination	3.85 ± 4.72 (2)	3.04 ± 3.75 (2)	<.0001
Hygiene	2.37 ± 4.67 (0)	1.79 ± 3.53 (0)	0.122
Fluoride	2.63 ± 3.75 (1)	2.12 ± 2.95 (1)	0.0007
Restorations (overall)	0.46 ± 1.51 (0)	1.08 ± 2.34 (0)	<.0001
Amalgam	0.03 ± 0.36 (0)	0.01 ± 0.12 (0)	0.0595
Composite	2.03 ± 4.08 (0)	1.69 ± 3.04 (0)	0.889
Sealants	1.09 ± 2.13 (0)	1.12 ± 2.0 (0)	0.5706
Pulpotomy	0.37 ± 0.95 (0)	0.42 ± 1.05 (0)	0.2489
Stainless steel crown	1.52 ± 2.88 (0)	1.16 ± 2.44 (0)	0.0926
Esthetic crown	0.07 ± 0.47 (0)	0.07 ± 0.47 (0)	0.4518
Extraction	1.54 ± 2.82 (0)	0.91 ± 1.83 (0)	<.0001
Space maintainer	0.01 ± 0.12 (0)	0.02 ± 0.19 (0)	0.0283

Medical Conditions Among CSHCN (%)

- Autism spectrum disorder (46%)
- Intellectual and developmental disability (40%)
- Attention deficit hyperactivity disorder (21.5%)
- Syndromes (18.5%)
- Epilepsy (17.3%)
- Speech delay (12.1%)
- Cerebral Palsy (8.8%)
- Down Syndrome (6.4%)
- Hearing impairment (4.2%)
- Visual impairment (3.5%)