

Continuity of Dental Care and its Effect on the Behavior of Children with Autism Spectrum Disorder

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PURPOSE

The purpose of this quality improvement study is to analyze if there is any correlation with an improvement in behavior (based off FRANKL score) and the length of time pediatric patients diagnosed with Autism Spectrum Disorder have had continuity of dental care at one dental office (Children's Hospital of Pittsburgh). The purpose is also to advocate for a more personalized and consistent dental home for the intellectual and developmental disabilities (I/DD) population based on each patient's unique development, physiology, and social circumstances.

INTRODUCTION

There are currently many obstacles to receiving access to routine dental healthcare and resources for individuals with I/DD, such as poor insurance reimbursement rates, lack of provider availability and comfort, and increased administrative burden. Yet from 2012 to 2023, there has been an over 6-fold increase in the number of children ages 12-21 diagnosed with Autism Spectrum Disorder living in Allegheny County with UPMC For You (Medicaid) health insurance (Table 1). This specific population is especially vulnerable to lack of access to quality, routine dental care because these children have often aged out of pediatric dental care (due to having full permanent dentition) but face behavioral and developmental challenges seeing an adult dentist or family dentist in a traditional setting. Currently, 99.5% of surveyed pediatric dentists are reported to see I/DD patients¹ while only 10% of surveyed general dentists do². Given that the training received during pediatric dental residency has a focus on treating the I/DD population, it is logical to conclude that pediatric dental specialists oftentimes will delay the transition of dental care to an adult dentist with these patients.

METHODS

Inclusion criteria for # of children with Autism Spectrum Disorder diagnosis:

1. UPMC For You insurance
2. Ages 12-21 years old
3. Patients were coded using ICD-10-CM Diagnosis coding for Autism Spectrum Disorder F84.0
4. Residing in Allegheny County

Inclusion criteria for patient FRANKL score monitoring:

1. A child presenting to the Children's Hospital of Pittsburgh Dental Clinic in 2023 for a hygiene appointment scheduled for additional time (1 hour) due to behavior management needs.
2. Autism Spectrum Disorder (ASD) diagnosis
3. No other significant medical history (if a child is seeing multiple other hospital services for care, they are more likely to be delayed in being referred out for adult dental care and be kept with hospital dentistry at CHP – this was not the target patient population for the purposes of this study)

Data was analyzed using a paired t-test and resulting p-values were determined.

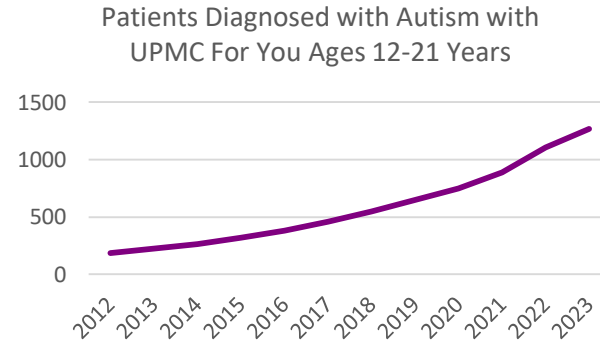


Table 1: # of Patients Diagnosed with Autism with UPMC For You insurance Ages 12-21 Years



Table 2: Changes in FRANKL Scores after Continuity of Care for a Certain # of Years

t-Test: Paired Two Sample for Means

	First visit	Most recent
Mean	1.475	2.088
Variance	0.547	0.838
Observations	183	183
Pearson Correlation	0.319	
P(T<=t) one-tail	3.7747E-15	

Table 3: Statistical Analysis

RESULTS

In 2023, there were 272 patients who presented to the Children's Hospital of Pittsburgh for a 1-hour long hygiene/recall appointment with an ASD diagnosis. Of these, 183 were included in this study since they had been to CHP Dental for repeat (more than 1) hygiene/recall visit. There was a statistically significant increase in FRANKL score from the first hygiene appointment (1.48) to the most recent (2.09), with an average improvement of +0.61 ($p = 3.77 E-15$). The average length of time these patients had been patients of record was 3.87 years and 65% of these patients had UPMC For You insurance (Medicaid), with the majority of the other 35% also having another form of Medicaid insurance through a different Managed Care Organization. The longer a patient was a consistent patient of record, the greater the likelihood in an improvement in FRANKL score (Table 2). In addition, older patients in this population who had been patients of record at CHP Dental Clinic for multiple years exhibited increased levels of familiarity with what a dental hygiene appointment entails, with some patients becoming so familiar with a papoose board they became much easier to wrap and even actively helpful with the process (i.e., climbing onto the board themselves).

DISCUSSION

There are multiple limitations to this study that need to be acknowledged. Firstly, even though these patients have been in the same dental clinic setting for routine appointments, they likely are receiving their cleanings from different hygienists and exams from different dentists at each visit. Secondly, many patients unintentionally may not have been included in this study due to exhibiting cooperative enough behavior after their first hygiene visit to not be blocked off for additional time at their subsequent hygiene visit (who otherwise would have met the inclusion criteria). These patients have the potential to also exhibit improvements in FRANKL score over time.

CONCLUSIONS

- The number of children diagnosed with Autism Spectrum Disorder is increasing each year
- Children with a diagnosis of Autism Spectrum Disorder may exhibit an improvement in behavior from an earlier introduction to and establishment of a consistent dental home
- The majority of children with Autism Spectrum Disorder seeking care at UPMC Children's Hospital of Pittsburgh have a form of Medicaid insurance as their dental insurance

REFERENCES

1. American Dental Association. 2012 Survey of Dental Practice. Pediatric Dentists in Private Practice. Characteristics Report. Available at: "https://www.aapd.org/assets/1/7/SurveyofDentalPracticeReport.pdf".
2. Casamassimo PS, Seale NS, Ruehs K. General dentists' perceptions of educational and treatment issues affecting access to care for children with special health care needs. J Dent Educ 2004;68(1):23-5.