Special Healthcare Needs Training in Postdoctoral General Dentistry Education Programs

Anirudh Pidugu DDS, Suheily Aponte-Rodriguez DMD, Caroline Duarte DDS, PhD, Lesbia Drukteinis, DDS, Oscar Arevalo, DDS, ScD, MBA, MS

INTRODUCTION

Children with special healthcare needs (SHCN) represent approximately 18% of US children and face persistent barriers to accessing oral healthcare. SHCN includes physical, developmental, cognitive, sensory, behavioral, and emotional conditions requiring individualized and coordinated care. Oral healthcare for these patients involves complex case management, behavior guidance, and medical coordination. Pediatric dentists are uniquely trained to manage SHCN patients but are insufficient in number to meet national demand, with care often ending in adolescence. The transition to adult dental care is a major challenge for SHCN patients, driven by limited availability of trained adult providers, poor care continuity, and financial barriers. General Practice Residencies (GPRs) and Advanced Education in General Dentistry (AEGDs) programs offer a critical opportunity to expand the SHCN trained workforce. Although accreditation standards require SHCN competence, many programs lack structured curricula or adequate clinical exposure. Improving residency training is essential to strengthen provider preparedness and ensure access to oral healthcare for individuals with SHCN.

PURPOSE

The purpose of this research was to assess US-based GPRs and AEGD programs' didactic and clinical training on SHCN. Using a national survey of program directors, the study assesses current training practices, clinical exposure, faculty expertise, and perceived resident preparedness and confidence.

STUDY DESIGN AND METHODS

This study employed a cross-sectional survey design targeting program directors of CODA-accredited GPR and AEGD programs in the United States. A total of 235 program directors (163 GPR and 72 AEGD) were invited to participate, with military-based programs excluded due to differences in patient populations, training structures, and care delivery settings. A 26-item structured questionnaire was distributed electronically to assess SHCN-related training practices, including program characteristics, didactic and clinical training modalities, resident exposure to SHCN patients, availability of treatment approaches such as GA, sedation, and protective stabilization, faculty expertise, and perceived resident preparedness across medical, behavioral, and developmental conditions. Data were collected anonymously using REDCap with no identifiable information obtained. Descriptive statistics were used to summarize responses, and comparative analyses were performed between GPR and AEGD programs to evaluate differences in training approaches and perceived preparedness.

LEGENDS FOR FIGURES

A total of 64 program directors participated. Specifically, 49 of 163 GPR directors (30.1%) and 15 of 72 AEGD directors (20.8%) responded, corresponding to an overall response rate across all eligible programs of 27.2%.

GPR programs were significantly more longstanding (p = 0.045),with 75.5% operating for more than 25 years, whereas 60% of AEGD programs had operated for 25 years or less. GPRs being predominantly hospital based (85.7%) and AEGDs university-based (40%) (p < 0.001).

TABLES AND FIGURES

Table 1. SHCN Training and Behavior Guidance Practices in GPR and AEGD

Characteristic	Program Type - n (%) GPR (49)	AEGD (15)	P-Value
Training (module provided)			
SHCN related rotations	30 (61.2)	7 (46.7)	0.318
SHCN related formal lectures, case-based learning, or seminars	39 (79.6)	12 (80)	0.973
SHCN dedicated interprofessional education	16 (32.7)	4 (26.7)	0.662
SHCN community-based experiences	12 (24.5)	7 (46.7)	0.100
SHCN simulation and case-based learning	7 (14.3)	3 (20)	0.594
SHCN scholarly projects/research	6 (12.2)	2 (13.3)	0.911
Behavior Guidance Techniques			
None	3 (6.1)	2 (13.3)	0.363
Protective Stabilization	16 (32.7)	4 (26.7)	0.662
Oral Sedation	29 (59.2)	9 (60)	0.955
Intravenous Sedation	21 (42.9)	8 (53.3)	0.476
General Anesthesia	36 (73.5)	5 (33.3)	0.005
Desensitization to Dental Setting	29 (59.2)	6 (40)	0.192
Sensory Adapted Dental Environments (SADE)	9 (18.4)	4 (26.7)	0.485

Figure 1. Resident Preparedness and Competency

Characteristic	Program Type - n (%) GPR (49)	AEGD (15)	P-Value
Resident Concerns			
Lack of confidence	29 (59.2)	6 (40)	0.192
Behavioral management issues	31 (63.3)	7 (46.7)	0.252
Medical Complexity	26 (53.1)	7 (46.7)	0.665
Insufficient Training	18 (36.7)	4 (26.7)	0.473
Insufficient in-clinic resources	7 (14.3)	2 (13.3)	0.926
No concerns	9 (18.4)	7 (46.7)	0.027
Assessment of Resident Competency			
Clinical evaluations by faculty	48 (98)	12 (80)	0.012
Self-assessment by residents	25 (51)	7 (46.7)	0.768
Standardized testing or exams	7 (14.3)	0	0.121
Feedback from external specialists	5 (10.2)	1 (6.7)	0.681

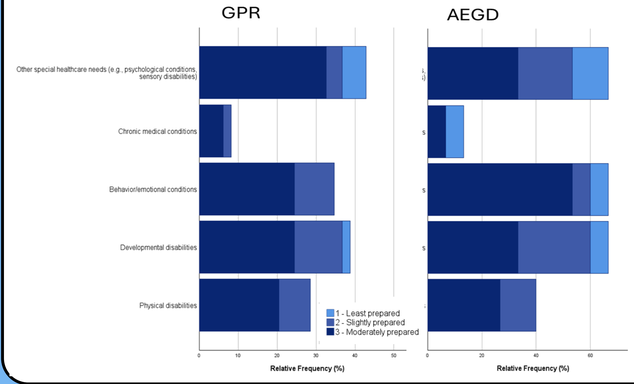
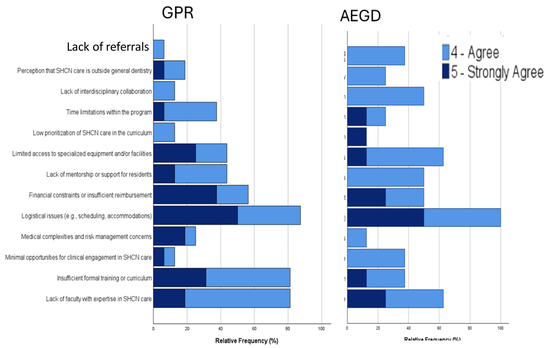
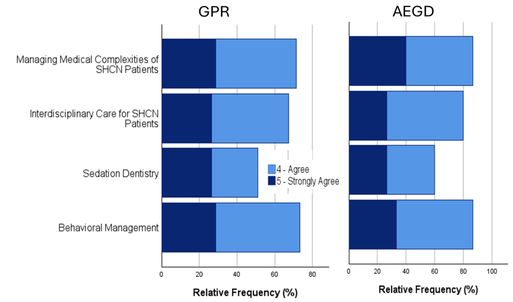


Figure 2. Barriers to Treating SHCN Patients



Characteristic	Program Type - n (%) GPR (49)	AEGD (15)	P-Value
Sufficient Funding (N=64)			
Yes	13 (26.5)	3 (20)	0.86
No	28 (57.1)	9 (60)	
Unsure	8 (16.3)	3 (20)	
External Funding (N=64)			
More federal or state funding	20 (40.8)	6 (40)	0.199
Partnerships with private organizations	1 (2)	2 (13.3)	
Grants for specialized SHCN care	23 (46.9)	7 (46.7)	
Other (please specify)	5 (10.2)	0	

Figure 3. Beneficial Program Modules



Incorporation of Standarized Assessments/Certifications (N=64)			
Yes	18 (36.7)	7 (46.7)	0.892
No	9 (18.4)	2 (13.3)	
Unsure	17 (34.7)	5 (33.3)	
Program already uses standardized measures	5 (10.2)	1 (6.7)	

RESULTS

- General anesthesia was significantly more common in GPR programs (GPR 73.5%; vs AEGD 33.3%;, p = 0.005).
- Behavioral management, medical complexity, and resident confidence were the most reported training gaps in both GPR and AEGD programs
- Didactic SHCN hours were higher in GPR programs, whereas AEGD programs devoted more time to SHCN-related scholarly activities
- Both program types commonly used lectures/seminars (~80%) for SHCN training; GPR programs more frequently reported SHCN rotations (61.2% vs 46.7%), while AEGDs reported more community-based experiences (46.7% vs 24.5%)
- Preparedness differed by program type (p = 0.03), with GPR programs reporting higher preparedness and AEGD programs showing greater variability and lower ratings
- Funding limitations, logistical barriers, and limited faculty expertise were widely reported challenges across both program types
- Most directors expressed strong interest in expanding SHCN training modules and interprofessional collaborations.

DISCUSSION

- Both GPR and AEGD programs have extensive SHCN training; however, structural differences influence preparedness and resource availability
- Hospital-based GPR programs demonstrated greater access to general anesthesia and more consistent preparedness ratings, likely reflecting infrastructure and interdisciplinary integration
- Despite comparable differences in patient exposure, behavioral management, medical complexity, and resident confidence, persistent training gaps remain across both program types
- Variability in didactic hours, scholarly emphasis, and use of standardized competency assessments suggests a lack of uniform SHCN training benchmarks nationally
- Funding limitations, logistical constraints, and limited faculty expertise were widely reported barriers, indicating that curricular enhancement alone may be insufficient without institutional support
- Strong interest in expanding SHCN modules and interprofessional collaborations highlights opportunities for structured curriculum development and workforce strengthening.

CONCLUSIONS

GPR and AEGD programs incorporate meaningful training in the management of SHCN patients. Strengthening faculty development, enhancing interdisciplinary collaboration, and addressing institutional barriers may improve postdoctoral training and better prepare general dentists to meet the growing and complex oral health needs of patients with special healthcare needs.