

Speech Language Pathology Perceptions in the Time of COVID-19: Telehealth and Dysphagia Services in West Virginia

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INTRODUCTION

The prevalence of feeding disorders in typically developing children can be as high as 25% of the population.¹ For children with developmental disabilities, the frequency of feeding challenges is much higher at 85%. This health disparity is specifically salient for children living in rural settings.² While many cases are pediatric in nature, feeding and swallowing difficulties occur across the lifespan, which may require the care of a speech language pathologist (SLP). Speech language pathologists identified swallowing challenges in more than 50% of older individuals diagnosed with intellectual disabilities.³ Disordered feeding and swallowing, or dysphagia, can result in an inability for individuals to thrive and often limits achievement of developmental milestones.¹ In addition, poor growth, chronic dehydration, social isolation, family stress, and the need for alternative nutrition, such as a gastrostomy tube, can be consequences of feeding and swallowing dysfunction. Thus, access to these services is crucial for individuals with disabilities.

Despite the increased need for SLP services in the rural setting, many rural counties are medically underserved. Previous researchers have demonstrated that geographic isolation and lower pay are two common factors contributing to the limited SLP services and access in rural communities.⁴⁻⁶ When faced with these challenges, many providers (including SLPs) carry sig-

ABSTRACT

INTRODUCTION

Little is known about the nature and frequency of telehealth services in rural settings, particularly those within West Virginia (WV) with historically limited access to speech and language services. The purpose of this work is to define these services in WV and to discuss how the 2019 coronavirus pandemic (COVID) precautions affected the need to use telehealth from the speech and language pathologist (SLP) perspective.

METHODS

An online survey was administered to WV SLPs exploring their feeding and swallowing expertise, service coordination, patient service utilization, and approaches, particularly post-COVID. Our approach yielded responses from 124 SLPs from 37 of the 55 WV counties.

RESULTS

The majority of the sample provided a variety

of services across large regions of WV. SLP experiences were varied. Half of survey respondents cited a shortage of experienced clinicians as a primary reason for feeding and swallowing service denial. The majority of SLPs had incorporated telehealth into their approach since COVID; however, a subsample reported restrictions in access to technology, policies, and training. Many respondents were not sure of security risks and requested training in security and methods for active participation.

CONCLUSIONS

Our findings reveal the need for increased systematic and educational support for SLPs providing feeding services via telehealth. Provider access, training, and use of telehealth approaches are pivotal for reaching people with disabilities and are crucial for removing the isolation for this population.

nificant caseloads, serve large regions, and have a breadth of service knowledge they must maintain. For many SLPs, telehealth produces challenges and benefits to their practice in the rural setting.

In 2002, telehealth first appeared in the academic literature as a feasible treatment modality for dysphagia.⁷ Almost 20 years later, Burns and colleagues⁸ further support telehealth as a cost efficient modality with high practitioner and patient satisfaction in the treatment of dysphagia. Telehealth can broaden access for rurally located patients requiring specialized dysphagia intervention.⁹ Few SLPs in rural settings are experienced in telehealth despite its existence and evidence supporting telehealth for more than two decades.⁹ The emergence of COVID in the spring of 2020 accelerated the use of telehealth to quickly increase access to medical care for rural populations and individuals identified as high risk.¹⁰⁻¹¹ Millions in the United

States successfully utilized remote healthcare for the first time during the pandemic.¹¹ While the existence of telehealth spans multiple decades, the eminent need for feasible and contactless healthcare expeditiously broadened reimbursement, lessened licensure limitations, and facilitated the introduction of remote medical care into the mainstream healthcare system. The large-scale transition to telehealth during the pandemic made healthcare accessible;¹¹⁻¹³ however, little is known about the current state of telehealth for pediatric dysphagia with the pandemic-driven service expansion for these services in West Virginia (WV).

Prior to the COVID pandemic, a national study reported that more than half of participating SLPs had used telehealth at least once.¹⁴ These findings did not compare provider practices based on rurality and did not specifically look at each state. Thus, WV provider service patterns were not avail-

able. SLP services within WV have not been described in previous work. Similarly, SLP perceptions of their patients' service utilization and their services during the pandemic were unavailable. Consequently, the aim of this study was to document the types of services provided by SLPs, note telehealth use, and describe SLP perceptions of challenges and benefits from telehealth in WV.

METHODS

We implemented a cross-sectional, state-wide survey design using the secure online Qualtrics platform to assess SLP perceptions of feeding and swallowing services and telehealth in WV from April 2020 to September 2020. Participants were asked to respond to a 52-item survey.

PARTICIPANT RECRUITMENT AND ELIGIBILITY

Participants were required to provide consent and confirm eligibility prior to accessing the survey. Criteria for eligibility included: (1) licensure as a SLP in WV and (2) currently providing speech language pathology services in WV. Participants were required to self-determine eligibility criteria prior to being granted access to the survey. If a potential participant did not meet all eligibility criteria by the initial demographic questions, they were informed they were not eligible to participate in the study. Data was collected anonymously, and there was an incentive for the chance to win a \$25 Amazon gift card for participation for the first survey. An incentive for an additional entry to win a \$25 Amazon gift card was given if the participant completed the follow-up survey.

MEASURES

This study was adapted from the purpose-built survey designed by Ratz and colleagues.¹⁵ Questions were modified to be pertinent to the healthcare system in the United States and split into two surveys. The initial survey contained 22 questions that pertained to (1) general demographics and (2) feeding services/experiences. At the end of the initial survey, participants were asked if they wanted to participate in a follow-up survey. The follow-up survey contained a maximum of 30 questions that pertained to (3) telehealth experiences and (4) perceptions and experiences providing pediatric feeding services via telehealth.

TABLE 1: Sample Characteristics

Characteristic	N	(%)
Respondent age		
24-30 years	30	24.2
30-40 years	34	27.4
40-50 years	27	21.8
Number of years practicing as SLP		
20+ years	45	36.3
10-20 years	33	26.6
2-5 years	20	16.1
Employment status		
Full time	96	77.4
Part time	13	10.5
As needed	12	9.7
Types of experience		
Clinician (independent provider)	96	77.4
Supervisory position	10	8.1
Clinical fellow	8	6.5
Employment setting (one or multiple)		
Primary and secondary education	46	37.4
Home-based setting	46	37.4
Hospital/acute care	30	24.4
Residential health care facilities	26	21.1

N represents the number of respondents reporting the characteristic and (%) represents the frequency of the characteristic as a percentage of the total sample. Frequencies do not all add up to total sample due to missing variables across the respondents.

PROCEDURES

Participants were recruited through a list provided by the WV Board of Examiners Speech Language Pathology and Audiology, which contained self-reported emails for speech language pathologists licensed in WV. The list was maintained by the authorization body and private to the investigators. All materials were sent by a board representative. Advertisements were also posted to private speech language pathology groups on social media platforms that potentially provide feeding and swallowing intervention to pediatric populations. The recruitment email and advertisement contained a brief summary of the project and a link to the online survey. A reminder email was sent to the original sample four weeks after the initial email. All study criteria and procedures were reviewed

and approved by the West Virginia University Institutional Review Board.

DATA ANALYSIS

Descriptive statistics were used to examine the sample characteristics and distributions of the study variables. The authors examined common practices of participants using distribution analyses as well. Responses to most questions were reported as a percentage of the total cohort, including any non-responders (%NR). Counts were used to report the frequency of responses of subgroups (e.g., respondents requesting the follow-up survey).

RESULTS

SAMPLE CHARACTERISTICS

Table 1 provides select characteristics about survey respondents in this study. There

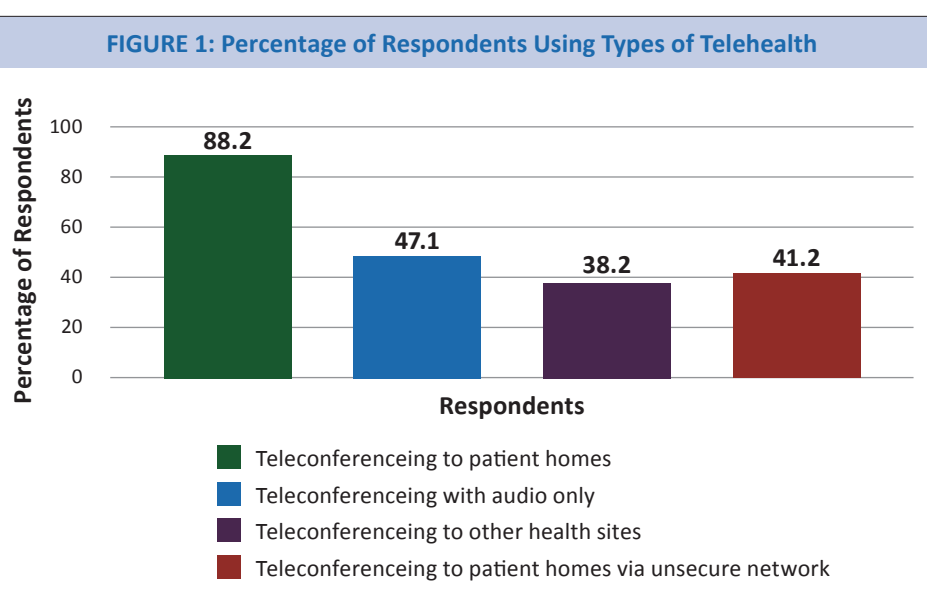
were 124 providers who completed the initial survey representing 37 of the 55 counties in WV. Respondents were between 24 and 65 years of age and had practiced as a SLP in WV from one to 25 years. The majority of respondents had been practicing for 10 or more years (62.9%). Slightly over 75% were working full-time; one-third (37.9%) were working at two or more locations (e.g., early intervention, schools, outpatient clinics). Most of the respondents were serving as clinicians or independent providers with certificates of clinical competency and/or state licensure (77.4%).

NATURE OF PRACTICE

When asked to describe their average workload and specialties, 28.5% of respondents noted speech activities, 32.6% reported language, 19.9% reported feeding/dysphagia services, and the remaining activities included social communication, literacy, voice, managerial, and other activities related to cognition. Most respondents took a life-span approach, noting their patient populations included a diverse range with 24.8% serving school-aged (5-12 years) children, 22.4% serving older adults (65 years or older), and 19.9% serving toddlers (1-3 years). On average, 70.9% of providers reported that patients travel less than 30 minutes for their services; 30.2% noted it took between 30 minutes to one hour for their patients. Only one quarter (25.1%) of respondents used email or telephone calls to follow-up with services or check progress. Thirty-seven percent of respondents spent three or more hours per week traveling to provide services.

FEEDING/DYSPHAGIA SERVICES

One-third of respondents (38.1%) had provided pediatric feeding/dysphagia services for two to 10 years. Those respondents who provided feeding/dysphagia services commonly served children between two months and four years (28.9%) or older adults (65 years or older; 24.6%). Common feeding services included caring for individuals with development of oral motor skills/diet progression (66%), behavioral or problem feeding (50%), pharyngeal dysphagia (39%), and tube feeding/non-nutritive feeding (31%). Respondents reported face-to-face in clinic consultations and home visits as the most common setting for de-



livery of service. When asked why access is most typically denied if feeding services are warranted, 50.6% of respondents noted it was due to a lack of clinicians with pediatric feeding experience; 32.9% noted other reasons including lack of referral resources or knowledge; 19.8% reported insurance denial; and 15.4% reported the client is not eligible for services for other reasons.

TELEHEALTH

Forty-six respondents continued to complete questions about telehealth during a COVID precaution period. Most had been providing telehealth services for feeding issues in the past six months (89.9%), while a smaller group had been using that platform for two years (9.1%). A majority of respondents were providing these services to school-aged children (63.6%) or neonates and infants (54.5%) and focusing largely on development of oral motor skills (90.9%), transitional feeding (81.8%), or behavioral feeding issues (81.8%).

Thirty four percent of respondents had direct access to telehealth and teleconferencing equipment. Figure 1 provides information on the telehealth modalities used most frequently by survey respondents in this study. Specific equipment included access to the following: videoconferencing to patient homes via secure network (88.2%), teleconferencing to patient homes with audio only (47.1%), videoconferencing to other health sites (38.2%),

and videoconferencing to patient homes via unsecure network such as Skype or Facetime (41.2%). Fifty-five percent noted they did not have technical support for telehealth or teleconferencing equipment in their workplace; 41.1% noted they had no documented guidelines, and 41.2% did not have telehealth resources for clients. However, 73.5% of respondents had access to telehealth training opportunities within their workplace recently, such as online modules. Telehealth services were provided by private insurance (45.5%), grant funds (45.5%), private pay (18.2%), or other funding (18.2%).

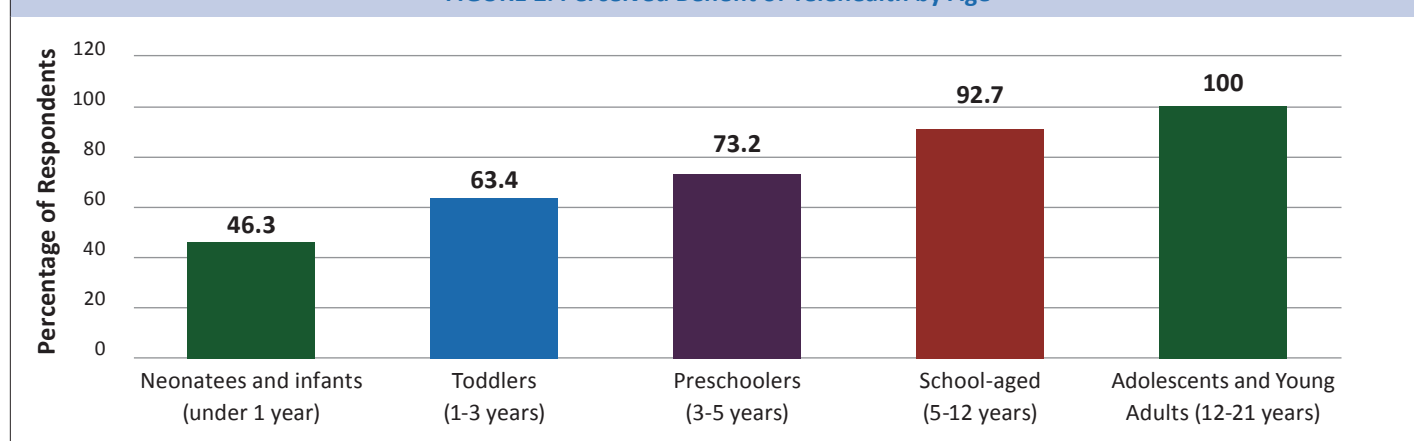
Various forms of teleconference software were initially used in the period based on experience during meetings and training. Over time, providers started to use this equipment (and explore secure forms of this type of equipment) to deliver speech and language services to clients. Table 2 provides the reported frequency in which this equipment was used for these purposes. Provider confidence using this equipment varied across respondents. Given a Likert scale to describe confidence, providers were more confident using the equipment for meetings (mean = 3.8) and for trainings (mean = 3.3) followed by health management (e.g., consultations, appointment scheduling; mean = 3.2) and delivering speech and language services (mean = 3.0).

All respondents felt teleconferencing and

TABLE 2: Ways SLPs Use Telehealth in WV Based on Respondent Reports

Telehealth purpose	Minimum number of events	Maximum number of events	Average use for this purpose	SD
Meetings in the workplace	1	5	3.2	1.2
Training, support, mentoring of other clinicians	1	5	2.4	1.4
Delivery of any SLP clinical services	1	5	3.1	1.4
Any aspects of own personal health management	1	4	1.8	1.1

FIGURE 2: Perceived Benefit of Telehealth by Age



telehealth applications would be useful to provide services in the future with additional training. All respondents noted the benefits of using these platforms to provide education for parents/caregivers as needed, 79.5% thought the delivery would be appropriate to review symptoms, 52.3% noted the benefits for delivering therapy techniques, and 36.4% suggested it would be useful to complete the initial assessment. Telehealth was viewed to have benefit when used for all ages but more beneficial for clients as they were older (Figure 2).

Specific feeding services, particularly of interest to the telehealth platform, included the following: behavioral feeding (e.g., mealtime behavior/picky eaters, 82.9%), development of oral motor skills (73.2%), non-oral feeding support (e.g., mouth cares/non-oral stimulation programs, 70.7%), transitional feeding (61.0%), introduction to solids (46.3%), infant feeding assessment and management (46.3%), dysphagia (39.0%), and tube weaning (36.6%).

FAMILY TELEHEALTH EXPERIENCES

Provider perceptions of family experiences with telehealth in WV varied. Not all families had the essential equipment needed to

access telehealth per their report as providers felt that 36.4% of families had personal laptops, 36.4% had a smart phone, and 27.3% had an alternative device such as a tablet. Most interactions by telehealth include the child and either a parent or caregiver; 9.1% of reports also noted the availability of another SLP. Most providers offer telehealth as an option at the request of the family (45.5%) or as a single option during COVID precautions, (36.4%) but these practices are not standard (9.1%) or directly available upon referral in other situations (9.1%).

DISCUSSION

SLPs in WV report the provision of diverse services across various settings to heterogeneous patient populations. However, only a third of survey respondents had immediate access to telehealth resources (e.g., equipment) and had reported using telehealth in their current practice of care. For respondents who provide telehealth services for feeding and swallowing challenges, almost 90% have only been using the remote modality for six months. The increased usage in the past six months does mirror healthcare trends during the coronavirus pandemic.¹¹ However, one-third of

the respondents had been providing feeding services for several years. Nationally, these skills provide valuable opportunities for interdisciplinary teams.¹⁶⁻¹⁷ Also, feeding expertise addresses needs that a substantial proportion of the population in WV would benefit from receiving.¹⁸ Select feeding and swallowing therapies remain limited within the state due to lack of expertise, a limited workforce, and varying service support structures.

While most of the respondents had been providing services to individuals from remote areas, only a small group have used telehealth to deliver services to more rural populations. Their experience with telehealth equipment and procedures were focused on team meetings and other administrative purposes. Peer-led demonstrations and opportunities to explore telehealth practices within this group may strengthen the reach of these services throughout the state based on findings from national demonstrations.^{9, 19} Finally, many respondents described an increase in telehealth use during additional times of physical isolation, such as during COVID-19 shutdowns and that their experiences thus far had been positive but they did not feel

they were using it to the full potential.

Access to care, particularly during public health precautions, is an essential factor contributing to one's health. Health disparities are commonly noted for individuals and families living in rural or remote areas, especially in WV, where healthcare disparities are the highest in the nation.^{6, 21-22} Since feeding and swallowing contribute to overall quality of life,¹ integration of dysphagia services should consistently be integrated into healthcare plans for persons with disabilities. Since persons with developmental disabilities are disproportionately diagnosed with dysphagia,² accessible treatment modalities are essential to address the need for services.

In the promotion of increased patient accessibility, telehealth is an evidence-based healthcare modality for the assessment and treatment of feeding and swallowing difficulties.^{7-9, 15} Telehealth options have been supported by research examining the potential to provide a variety of services in these areas.²² These approaches, however, often experience challenges that are slowly being addressed.²³ As noted in this study, addressing the limited experience

of this provider base within WV is an initial step. Familiarity with telehealth across the lifespan and in situations of different need would also expand the knowledge and skills base of our SLP providers.

The findings from this study illustrate the need to incorporate telehealth or other means to reach families when not able to meet in person. The current public health precautions also require providers to learn new skills quickly and/or work with populations normally not within their comfort levels.

CONCLUSION

While the majority of SLPs in WV have been practicing for over 10 years, clinicians reported feeling underprepared to provide remote services despite years of experience. In addition, scholarly research has supported telehealth for decades¹¹ yet pervasive implementation of this modality is still lacking. Respondents who identified as having experience in feeding and swallowing continue to rely on traditional face-to-face intervention instead of instituting telehealth for provision of services to the most at-risk and vulnerable populations who may fit the criteria for telehealth.

To increase clinician proficiency and competence in telehealth as a feasible and easily accessible treatment modality, workplace infrastructures should provide technology training and support as well as continuing education to advance knowledge of evidence-based remote practices. Similarly, peer-to-peer consultation, multidisciplinary team collaboration, and self-directed exploration of dysphagia practices can improve overall feeding and swallowing services across WV.

Further research is warranted in the following areas: exploration of patient broadband/internet access, patient and clinician technology proficiency, patient perceptions of telehealth, and overall satisfaction of telehealth services from both patient and clinician perspectives. Investigating these areas would help develop protocols for best practices in telehealth and dysphagia management within speech language pathology across WV and potentially other rural areas with high rates of people with disabilities. Skilled implementation of telehealth can help bridge the accessibility gap for many rural and at-risk WV patients with disabilities and comorbidities such as dysphagia that affect quality of life.

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Needs Sold