

## Exploring Speech and Language Pathology Practices in Adult Critical Care: An International Survey

Annie Mills\*

Department of Clinical Speech and Language Studies, Trinity College Dublin, Dublin, Ireland

### Abstract

**Objective:** Patients who are admitted to critical care (CC) run the risk of having trouble speaking and swallowing. SLPs (speech-language pathologists) are crucial in this situation. There are no CC guidelines for speech-language pathology in Ireland or elsewhere, and there may be differences in practise. to examine SLPs' perspectives on education, skills, and resources while comparing clinical practises in the areas of dysphagia, communication, and tracheostomy management among SLPs working in adult CC units in Ireland and abroad.

**Method:** SLPs who work in CC were the participants. A worldwide online survey was conducted to gather data on (i) the workforce demographics and staffing levels for SLPs, (ii) the methods used to assess and manage communication and dysphagia, and (iii) the methods used to assess and manage training, skills, and resources.

**Result:** There were 366 answers from 29 different nations. Of these respondents, 18.03% (66/366) had jobs in Ireland. The results revealed both common and unique practises. Total CC SLP whole-time equivalent (WTE) was less than anticipated for the best service delivery (mean difference: 0.21 to 0.65 WTE, p.001) for each staff grade. There have been recorded adverse repercussions of understaffing. In 66% (220/334) of services, the recommendations that all tracheostomized patients get SLP input went unfulfilled.

**Conclusion:** There are few specific positions, multidisciplinary teams (MDT) that are involved, consistent management techniques, and possibilities for foreign training in CC. The results' implications are examined.

**Keywords:** Speech-language; Tracheostomized; Communication; Dysphagia; Critically ill; Tracheostomized; Gastroesophageal reflux; Quality of life; Extubation; Clinical; Patient

### Introduction

According to the Joint Faculty of Intensive Care Medicine of Ireland (JFICMI), critical care (CC) offers "restorative and life support treatment for the critically ill case" through the delivery of specialised, ongoing, and multidisciplinary care. The survival rate of critically sick cases has grown as a result of scientific and specialized advancements [1]. The shift in CC culture from primarily sedated and voiced cases to increased tracheostomy insertions and lower sedation use has stressed the presence of dysphagia and communication difficulties as well as the need for visionary recuperation [2]. Speech-language pathology services must be instantly penetrated by critically sick cases who struggle to communicate or swallow [3]. Speech-language pathologists (SLPs) attend to cases' complicated communication, tracheostomy weaning, and swallowing conditions. Dysphagia in critically ill cases is allowed to have a multifactorial aetiology, with factors similar as trauma from endotracheal or tracheostomy tubes, neuromuscular weakness, altered oropharyngeal or laryngeal sensation, altered sensorium from distraction or sedation, gastroesophageal reflux, or awkward breathing and swallowing [4]. In addition to the presence of a tracheostomy or endotracheal tube, laryngeal injuries that may do in over to 58- 83 of tracheostomized or voiced CC cases may further vitiate communication [5]. Dysphagia and communication difficulties in CC have substantial consequences for a case's cerebral heartiness, medical stability, and quality of life (QOL) [6]. This understanding is growing. These adverse goods have significant health and fiscal costs for healthcare systems in addition to the case [7]. According to Patel et al.'s, dysphagia is linked to a noticeably longer duration of stay, lesser medical charges, a advanced threat of release to a post-acute care institution, and advanced outpatient death rates. Still, there are issues with communication operation and CC dysphagia. There's a lack of worldwide agreement on numerous problems, and there are wide variations in the reported

frequency of post-extubation dysphagia (PED), which ranges from 3 to 90 [8]. To identify CC cases at aspiration threat from PED, for case, there are many recognised and validated bedside swallowing webbing tools [9], and there's a lack of thickness in the use of swallow webbing tools [10]. According to Omura, Komine, Yanagigawa, Chiba, and Osada [11], timeframes for swallowing assessments post-extubation range from incontinently following to over to 48 hours latterly. Likewise, patient-specific necessary assessment is advised due to the increased aspiration threat associated with nasal high inflow oxygen modes [12], but vacuity and use of necessary assessments are still largely variable among CC SLPs [13]. Beforehand facilitation of different non-verbal and verbal communication options improves the recovery process, instils a sense of normalcy and may reduce distraction [14]. SLP input in CC combined with access for multidisciplinary platoon staff training in communication improvement, enablement and augmentative and indispensable communication use should affect in bettered patient communication [15]. SLPs have a part in educating and training patient families and CC associates in the recommended strategies to grease patient communication [16]. Despite the fact that over one- third of cases entering critical care may witness communication challenges, there's a dearth of exploration on communication webbing in CC [17]. Loss of voice may make it delicate for cases to share in care planning

**\*Corresponding author:** Annie Mills, Department of Clinical Speech and Language Studies, Trinity College Dublin, Dublin, Ireland, E-mail: anniemills1972@yahoo.com

**Received:** 01-May-2023, Manuscript No. jspt-23-98438; **Editor assigned:** 03-May-2023, PreQC No. jspt-23-98438(PQ); **Reviewed:** 17-May-2023, QC No. jspt-23-98438; **Revised:** 22-May-2023, Manuscript No. jspt-23-98438(R); **Published:** 29-May-2023, DOI: 10.4175/2472-5005.1000182

**Citation:** Mills A (2023) Exploring Speech and Language Pathology Practices in Adult Critical Care: An International Survey. J Speech Pathol Ther 8: 182.

**Copyright:** © 2023 Mills A. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

and recuperation, limit their degree of autonomy, and affect their mood significantly [18]. International recognition of the value of SLPs as essential members of the CC MDT is growing [19]. SLPs should be completely integrated members of the CC platoon, contributing to all multidisciplinary ward rounds, tracheostomy brigades, clinical governance groups, inspection, exploration, education, and policy development". This is a harmonious theme throughout the living recommendations. Still, there are not numerous transnational norms outside of the UK, and there is not presently a position paper on adult CC in Ireland, the USA, Canada, Australia, or New Zealand. In addition, rules for furnishing services differ from nation to nation. As an illustration, the most recent INCP [20] recommends a staffing position of 0.06 WTE (whole time fellow) per CC bed at an elderly Grade or above that have completed specific postgraduate training. The UK Guidelines for the Provision of Intensive Care Services (GPICS) [21] define a minimal staffing position of 0.1 WTE per CC bed, which is mainly lower than this. It's noteworthy that there were 257 ICU beds available across 26 sanitarium locales in Ireland at the time of this study [22] unclear SLPs served these units in an unclear capacity.

It's supposed that this occurs because there are not any clear, established morals to guide clinical practise and pool planning. Indeed though there's an expanding quantum of global exploration in this sphere, there can still be indigenous dissonances and inconsistencies in clinical practise patterns. SLP shoes on present practise and the profession's ongoing growth conditions are also largely undocumented. To examine the clinical practises of SLPs working in adult CC units both domestically and abroad in the areas of dysphagia, communication, and tracheostomy operation, as well as to probe their perspectives on education, capabilities, and coffers.

## Method

This study is reported using the Consensus-Based Checklist for Reporting of Survey Studies. The School of Linguistic, Speech and Communication Sciences Research Ethics Committee at Trinity College Dublin granted ethical permission for this study. To document SLP practise trends and service provision in CC, a cross-sectional, anonymous survey design was created. Using the online survey platform Qualtrics, the survey was created and distributed. The RCSLT Tracheostomy Clinical Excellence Network's (CEN) updated draught of a comparable survey and the senior authors' own experiences working in CC were used to design the survey questions. The survey was broken down into four sections: (i) workforce demographics, access to SLP, and staffing levels; (ii) current practises for assessing and managing dysphagia; (iii) current practises for assessing and managing communication; and (iv) practises and perspectives on training, skills, and resources from SLP respondents. The poll had 66 questions in all, including branching sub-questions based on skip logic, and 39 of them were numbered. It was finished in about fifteen minutes. Binary yes-or-no, multiple forced choices, and 5-point Likert scales were among the closed question types. In order to comply with informed consent guidelines and serve as a modified participant information leaflet (PIL), the survey's introduction was created. In order to improve the survey's content validity, increase responder dependability, and lessen the likelihood of measurement or non-response mistakes in the live survey, the survey was twice piloted on four SLPs that operate globally in the field of CC. The survey's phrasing was slightly altered for clarification in response to comments from the pilot testing. The study did not ask participants for any personally identifiable information, such as the name of their employer. Participants' Internet Protocol addresses were not gathered. Any private information that was revealed throughout

the survey was erased from the data, which was unexpected.

The target audience was decided to be adult CC SLPs working in Ireland and other countries. SLPs with a recognised professional certification, clinical expertise managing dysphagia, and recent work experience in CC during the previous three years (excluding medical observational units, high dependence units, or acute observational units) were required for inclusion. To ensure that the data gathered was representative of recent and current practises; SLPs who had not worked in a CC context in the last three years were removed. Purposive, non-probable sampling was employed to choose survey participants.

## Analysis of data

We used the Qualtrics "report" to compile descriptive data. Given that some participants occasionally chose not to answer a particular question, replies were presented as a percentage of the overall number of answers, taking into account a percentage for those who chose not to answer. Based on the survey sample, inferential statistics were also employed to test a hypothesis and make generalisations about a population. For all tests, a p-value of 0.05 or less was regarded as statistically significant. Furthermore, data entered in the survey's narrative comment boxes were analysed using inductive, qualitative content analysis [23].

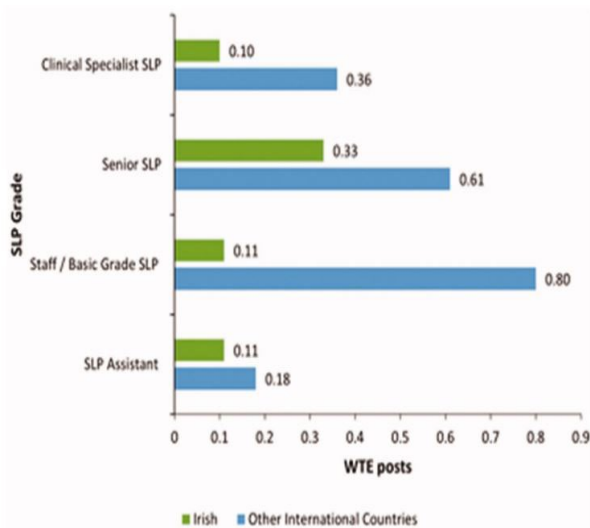
## Results

The survey received responses from 366 SLPs in total, and 264 respondents (or 72%) completed it entirely. Since the RCSLT tracheostomy CEN just published an early version of this survey, SLPs practising in the UK were not invited to take part. However, because they were not included in the exclusion criteria, 13 SLPs from the UK answered and were taken into account in the data analysis. The sample was heterogeneous in terms of geographic area, workplace, and years of experience. Participants were from 29 different nations. Academic teaching/university (30.69%, 155/505), public (27.92%, 141/505), and regional/district general hospitals (22.77%, 115/505) were the three hospital categories that respondents most often worked in. The least frequent employment environment described (1.98%, 10/505) was a charity hospital. Similar amounts of experience were reported by respondents from other nations; in Ireland, 54.47% (36/66) of SLPs had between one and five years of experience, 22.73% (15/66) had between six and ten years, and 22.73% (15/66) had more than ten years. This contrasts with the percentages from other nations of 51% (189/300), 18.33% (55/300), and 30.67% (92/300) (Figure 1).

## Discussion

### Demography of the critical care workforce and level of service

In addition to facilitating direct involvement with clinical and strategic decisions as part of the larger MDT, SLP staffing recommendations "reflects the need to provide frequent SLP intervention in line with the expected risks of dysphagia (49%), dysphonia (76%) and other communication problems in critically ill ventilated patients" [24]. Investigating whether the international standards for CC service supply [25] are being followed was outside the purview of this investigation. The results of the poll revealed, however, that there is a substantial variance in staffing based on the service, and the overall WTE of SLP staffing at each level was considerably less than the total WTE of staffing that respondents requested. SLP responders noted several clinical hazards as a result of decreased SLP staffing levels in CC. To guarantee the delivery of a consistent, secure, and dependable service, national and international staffing criteria should be met.



**Figure 1:** The mean WTE figure of SLP posts currently employed in Irish (n=66) and other international (n=300) CC services.

### SLP referrals for critical care and workload

The current speech-language pathology provision for CC patient needs across countries was reported as unequal and not fully and specifically funded for this client group, which is consistent with Australian study findings [26]. In this survey, almost all SLPs reported having a mixed caseload. This restricts both therapeutic progress and professional engagement within teams [27]. The majority of respondents stated that they were “sometimes” or “rarely” able to adhere to the National Institute for Health and Clinical Excellence [NICE] [28] recommendation that patients receive 45 minutes per day of SLP therapy, at a level that enables the patient to meet rehabilitation goals. According to respondents, Irish services have a much lesser capacity to deliver this level of therapy than those in other foreign nations, according to statistical research. Patients may not receive the best care possible as a result of these flaws and inconsistent practises, which puts them at risk of life-threatening consequences. For instance, low patient mood, motivation, and stress levels linked to a lack of communication ability [29] that can contribute to decrease health-related QOL after hospital discharge, or increased risk of aspiration pneumonia and subsequent mortality [30].

### Practises for assessing and managing dysphagia nowadays

Dysphagia screening strategies can improve process efficiency and identify dysphagia early, avoiding problems. Less than 10% of respondents working in Ireland and 50% of respondents working in other international countries reported using screening tools by nurses or medical doctors to identify PED, respectively. This may be partially due to the lack of recognised and validated bedside swallowing screening tools to identify patients at aspiration risk in CC. These outcomes align with reports from other nations. With 15 distinct methods described in the survey, the swallow screening techniques employed across sites are inconsistent as well. This is in line with practises in other fields.

According to this review, there is no apparent agreement in the literature about the ideal time to do swallowing assessments, which can range from immediately following extubation to up to 48 hours later. Future studies should validate the corresponding clinical screening tools and algorithms in critically ill patients, given the significance of early interdisciplinary screening to address potential complications from PED. However, considering the susceptibility of

these critically sick patients and the high frequency of silent aspiration and the risk of subsequent pulmonary effects in this population, an expert instrumental swallowing examination is even more necessary. Many studies have documented the advantages of using instrumental evaluations, such as FEES, to hasten choices on safe feeding and tracheostomy weaning. But not all CC situations may offer FEES, fewer than 40% of SLP respondents from services in Ireland and fewer than 60% from other overseas services reported access to FEES assessment for CC patients, which is consistent with the literature, according to the survey results. There is little support for treating dysphagia in CC patients. In contrast to direct rehabilitation to enhance swallowing function, Macht et al. observed that treatment in CC often focused on food texture alterations and postural changes/compensatory movements. This was in line with survey results that indicated a low usage rate of direct swallowing therapy approaches. According to Duncan et al., this may be partially attributable to the difficult realities of dysphagia therapy in CC, such as variable patient medical stability, neurological and respiratory condition. Furthermore, the absence of direct dysphagia practise on the ground may be impacted by the fact that the evidence for dysphagia rehabilitation is still under-explored in critically sick patients. However, according to National Institute for Health and Clinical Excellence guidelines, each patient with CC should have a rehabilitation prescription detailing their impairments and intended interventions completed within 72 hours. This lends support to the argument that dysphagia rehabilitation in CC is underutilized and should be a top priority of future research.

### Practises used now for tracheostomy evaluation and management

Fewer responders acknowledged utilising tracheostomy patient swallow screening methods. Ginnelly and Greenwood also discovered inconsistent practise and a lack of standardisation in the use of swallow screening assessments by tracheostomy MDTs in the UK, which contrasts reports by van Snippenburg et al., which show that screening is performed more frequently in the majority of Dutch ICUs for patients who received a tracheostomy. These findings, where more than 10 distinct swallow screening techniques for these individuals were reported, are supported by this survey. According to a UK research, 51% of patients with tracheostomies were sent to SLP “early” (within 48 hours). SLPs must begin assessment and therapy as soon as possible since each day that patients are in CC decreases their chances of recovering from dysphagia. Just over one-third of those who took the study said they get referrals for all patients who have tracheostomies. This indicates that generally speaking, SLP input is not able to satisfy GPICS advice for all patients with tracheostomies. Compared to respondents from other countries, nearly twice as many respondents working in Ireland reported having a Tracheostomy Team or Steering Group in their CC service. The majority of survey participants, however, said that they were a part of these teams if they were a part of their service. This is in keeping with the growing realisation that SLPs are important contributors to MDTs for tracheostomies.

### Conclusion

The findings of this study indicate areas of consistency and diversity in CC speech-language pathology practise patterns and service provision, not just in Ireland but also worldwide, even if they cannot be utilised to infer causality. It offers early insights into SLPs’ opinions on the enablers and impediments to effective practise, which is crucial in the COVID-19 age. This study offers preliminary support for future professional development for SLPs working in CC and the creation

of initiatives to improve MDTs working in this context as there are no clinical practises and training guidelines in Ireland or elsewhere. Future studies should concentrate on the effects of the aforementioned variances and difficulties on patient outcomes. In conclusion, the disparity in practises and the inadequate service, CPD, and training opportunities point to the urgent need for direction and guidance in this specialised area of clinical practise.

### Acknowledgement

Not applicable.

### Conflict of Interest

Author declares no conflict of interest.

### References

1. Attrill S, White S, Murray J, Hammond S, Doeltgen S (2018) Impact of oropharyngeal dysphagia on healthcare cost and length of stay in hospital: A systematic review. *BMC Health Serv Res* 18:594-612.
2. Brodsky M, Huang M, Shanholtz C, Mendez-Tellez P, Palmer J, et al. (2017) Recovery from dysphagia symptoms after oral endotracheal intubation in acute respiratory distress syndrome survivors. A 5-year longitudinal study. *Ann Am Thorac Soc* 14:376-383.
3. Brodsky M, Pandian V, Needham D (2020) Post extubation dysphagia: A problem needing multidisciplinary efforts. *Intensive Care Med* 46:93-96.
4. Cardinal L, Freeman-Sanderson A, Togher L (2020) The speech pathology workforce in intensive care units: Results from a national survey. *Aust Crit Care* 33:250-258.
5. Duncan S, Mcauley D, Walshe M, Gaughey J, Anand R, et al. (2020) Interventions for oropharyngeal dysphagia in acute and critical care: A systematic review and meta-analysis. *Intensive Care Med* 46:1326-1338.
6. Elo S, Kyngäs H (2008) The qualitative content analysis process. *J Adv Nurs* 62:107-115.
7. Grailley KE, Bryden DC, Brett SJ (2019) The Faculty of Intensive Care Medicine Workforce Survey-What impacts on our working lives?. *J Intensive Care Soc* 20:111-117.
8. Ferrara L, Bidiwala A, Sher I, Pirzada M, Barlev D, et al. (2017) Effect of nasal continuous positive airway pressure on the pharyngeal swallow in neonates. *J Perinatol* 37:398-403.
9. Freeman-Sanderson A, Morris K, Elkins M (2019) Characteristics of patient communication and prevalence of communication difficulty in the intensive care unit: An observational study. *Aust Crit Care* 32:373-377.
10. Freeman-Sanderson A, Togher L, Elkins M, Phipps P (2016) Quality of life improves with return of voice in tracheostomy patients in intensive care: An observational study. *J Crit Care* 33:186-191.
11. Freeman-Sanderson A, Ward C, Miles A, de Pedro Netto I, Duncan SA, Inamoto Y, et al. (2021) A consensus statement for the management and rehabilitation of communication and swallowing function in the ICU: A global response to COVID-19. *Arch Phys Med Rehabil* 102:835-842.
12. Ginnelly A, Greenwood N (2016) Screening adult patients with a tracheostomy tube for dysphagia: A mixed-methods study of practice in the UK. *Int J Lang Commun Disord* 51:285-295.
13. Green S, Reivonen S, Rutter L, Nouzova E, Duncan N, et al. (2018) Investigating speech and language impairments in delirium: A preliminary case-control study. *PLoS ONE* 13:527.
14. Rowland S, Mills C, Walshe M (2022) Perspectives on speech and language pathology practices and service provision in adult critical care settings in Ireland and international settings: A cross-sectional survey. *Int J Speech Lang Pathol* 1-12.
15. Aboelenein MM, O'Connor P, Amin NZ (2022) Institutional Resilience and Potential Risk During the COVID-19 Pandemic: A Comparative Study. *Societal Resilience and Response to Contagious Diseases and Pandemics*.
16. Hollon SD, Areán PA, Craske MG, Crawford KA, Kivlahan DR, et al. (2014) Development of clinical practice guidelines. *Annu Rev Clin Psychol* 10:213-241.
17. Hori R, Isaka M, Oonishi K, Yabe T, Oku Y (2016) Coordination between respiration and swallowing during non-invasive positive pressure ventilation. *Respirology* 21:1062-1067.
18. Johnson K, Speirs L, Mitchell A, Przybyl H, Anderson D, et al. (2018) Validation of a postextubation dysphagia screening tool for patients after prolonged endotracheal intubation. *Am J Crit Care* 27:89-96.
19. Vergara J, Skoretz SA, Brodsky MB, Miles A, Langmore SE, et al. (2020) Assessment, diagnosis, and treatment of dysphagia in patients infected with SARS-CoV-2: A review of the literature and international guidelines. *Am J Speech Lang Pathol* 29:2242-2253.
20. Macht M, Wimbish T, Bodine C, Moss M (2013) ICU-acquired swallowing disorders. *Crit Care Med* 44:973-975.
21. Marvin S, Thibeault S, Ehlenbach WJ (2019) Post-extubation dysphagia: Does timing of evaluation matter? *Dysphagia* 34:210-219.
22. Matsuo H, Yoshimura Y, Ishizaki N, Ueno T (2017) Dysphagia is associated with functional decline during acute-care hospitalization of older patients. *Geriatr Gerontol Int* 17:1610-1616.
23. McGrath B, Wallace S (2014) The UK national tracheostomy safety project and the role of speech and language therapists. *Curr Opin Otolaryngology Head Neck Surg* 22:181-187.
24. McIntyre M, Doeltgen S, Dalton N, Koppa M, Chimunda T (2021) Post-extubation dysphagia incidence in critically ill patients: A systematic review and meta-analysis. *Aust Crit Care* 34:67-75.
25. McRae J, Montgomery E, Garstang Z, Cleary E (2019) The role of speech and language therapists in the intensive care unit. *J Intensive Care Soc* 21:344-348.
26. Miles A, McLellan N, Machan R, Vokes D, Hunting A, et al. (2018) Dysphagia and laryngeal pathology in post-surgical cardiothoracic patients. *J Crit Care* 45:121-127.
27. Mobasheri M, King D, Judge S, Arshad F, Larsen M, et al. (2016) Communication aid requirements of intensive care unit patients with transient speech loss. *Augment Altern Commun* 32:261-271.
28. Moloney J, Walshe M (2019) Managing and supporting quality-of-life issues in dysphagia: A survey of clinical practice patterns and perspectives in the UK, Ireland and South Africa. *Int J Lang Commun Disord* 54:41-49.
29. Cui, F, Yin Q, Wu C, Shen M, Zhang Y, et al. (2020) Capsaicin combined with ice stimulation improves swallowing function in patients with dysphagia after stroke: a randomised controlled trial. *J Oral Rehabil* 47:1297-1303.
30. Labeit B, Jung A, Ahring S, Oelenberg S, Muhle P, et al. (2023) Relationship between post-stroke dysphagia and pharyngeal sensory impairment. *Neurol Res Pract* 5:1-12.