

Getting it Right Early: Improving Identification of Speech Sound Difficulties



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The Impact of Targeted Screening on Early Differential Diagnosis

BACKGROUND

Early and accurate identification of speech sound disorder (SSD) subtypes is essential to enable effective and efficient speech and language therapy (SLT) service delivery¹. Differential diagnosis supports targeted intervention planning, improves outcomes and reduces unnecessary therapy intensity and duration². Accurate subtype identification depends on detailed and reliable speech assessment¹. As comprehensive assessment is time-consuming and not always required, screening tools are commonly used to determine the scope of further assessment. While screening supports service efficiency, adequate sensitivity is required to detect variable SSD profiles³.

Inconsistent phonological disorder (IPD) is a subtype of SSD that accounts for approximately 10–15% of SSD presentations⁴, yet identification rates within ABUHB SLT services are substantially lower. This suggests under-identification and highlights limitations in current screening protocols. Improving screening sensitivity may therefore be essential to ensure equitable access to effective, efficient evidence-based intervention.

AIMS/OBJECTIVES

This project aimed to test whether the implementation of an evidence-based screening tool improves;

- identification of IPD within routine clinical practice
- timeliness of IPD diagnosis

The follow-up project will evaluate the impact of early evidence-based IPD intervention on clinical outcomes and service efficiency.

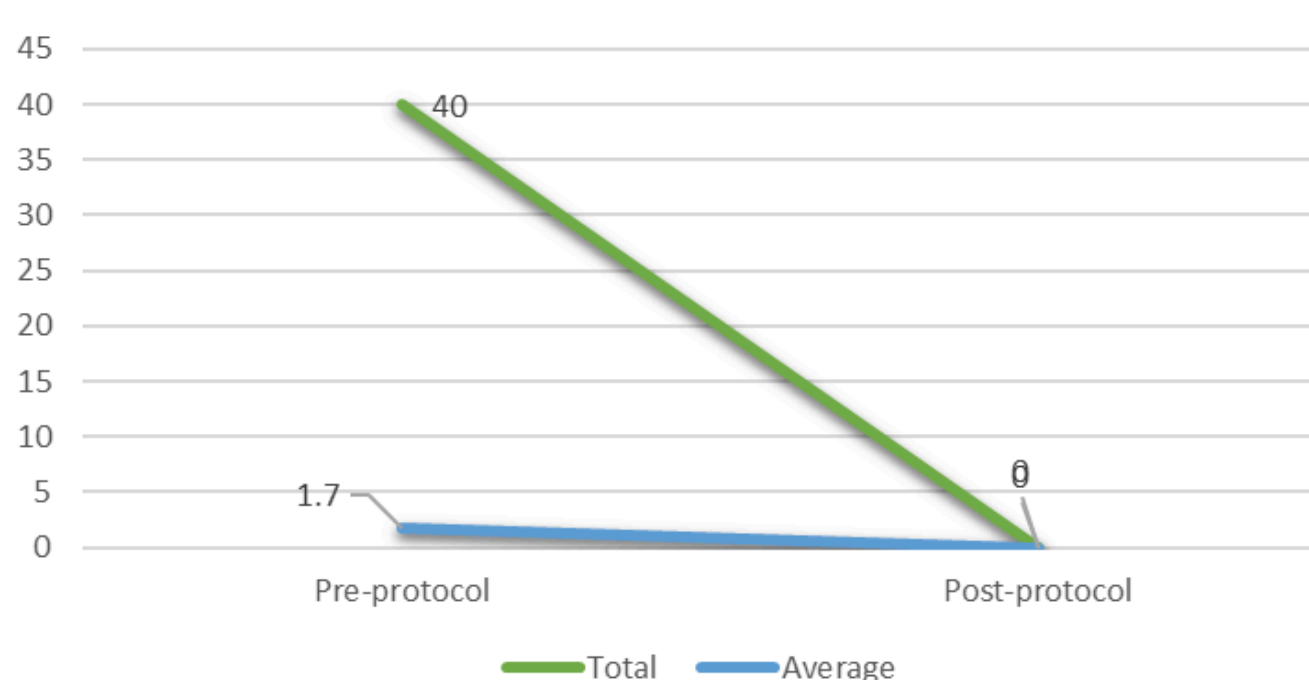
METHODOLOGY

- **Participants:** 8 SLTs implemented the DEAP screening assessment protocol for all initial and review appointments for children with SSD over a 6 month period
- **Approach:** Training was provided to all staff on assessment of speech sound disorder and identifying IPD.
- **Tools:** DEAP Screening Assessment was delivered to all children with SSD at initial and review appointments. This screen takes less than 10 minutes. Children who scored more than 50% inconsistency on this screen were then administered with the DEAP inconsistency assessment, scores above 40% on this assessment led to an IPD diagnosis in line with the assessment protocol. Retrospective data was collated for children diagnosed with IPD within the project.

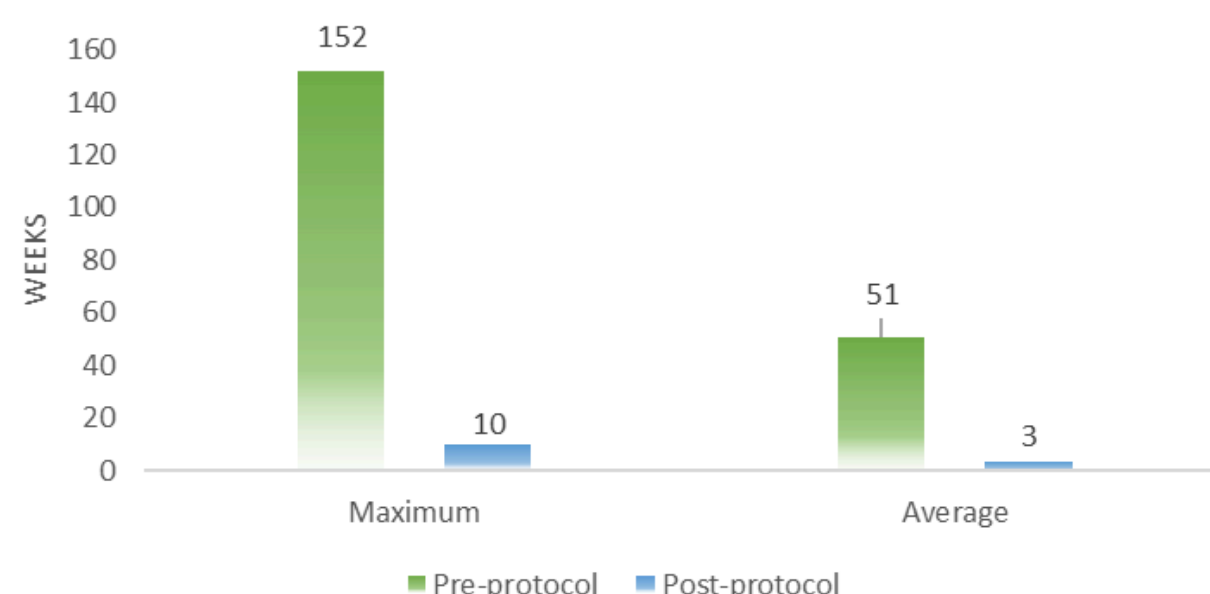
RESULTS

- Protocol resulted in 94% reduction in average time taken between initial appointment and IPD diagnosis
- IPD diagnosis rates improved to 10-15% for 4 SLTs
- 22 patients already on caseload identified as having undiagnosed IPD
- Delayed identification contributed to 40 potentially inefficient care plans, with an estimated impact of 280 clinical hours

Care plans delivered prior to IPD diagnosis



Time between initial appointment and IPD diagnosis



DISCUSSION

The evidence-based screening protocol for children with SSD significantly improved identification and management of IPD. The protocol resulted in timely IPD diagnosis, with most diagnosis being made the same day. The new protocol demonstrated increased sensitivity to IPD, with increased diagnosis and closer alignment with the evidence base. Embedding an evidence-based screening protocol within routine SLT practice can support earlier targeted intervention, reduce unnecessary therapy input, and improve equity and efficiency of care for children with SSD. The follow-up study will explore clinical outcomes for children who had early IPD diagnosis.

1. Royal College of Speech and Language Therapists (RCSLT). (2024). *Speech sound disorders: Clinical information and guidance*.

2. Rvachew, S., & Matthews, T. (2024). Considerations for identifying subtypes of speech sound disorder. *International Journal of Language & Communication Disorders*.

3. Broomfield, J., & Dodd, B. (2004). The nature of referred subtypes of primary speech disability. *Child Language Teaching and Therapy*, 20(2), 135–151.

4. Ttofari Eecen, K., Eadie, P., Morgan, A. T., & Reilly, S. (2019). Validation of Dodd's model for differential diagnosis of childhood speech sound disorders: A longitudinal community cohort study. *Developmental Medicine & Child Neurology*, 61(6), 689–696.