

Establishing Benchmarks for Linguistically Diverse Populations Treatment Time for the Lidcombe Program

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Onset of Stuttering

- Typically in preschool years
- 5 – 8.5% incidence ¹
- 75% natural recovery ²
- Early treatment can avoid negative consequences³

Lidcombe Program⁴

- Behavioral treatment
- Developed for preschool age
- Parents provide feedback
- Structured/unstructured conversations
- Stage 1 – continues until zero/near zero stuttering
- Stage 2 – maintenance for at least 1 year

Lidcombe Program

- Studies support effectiveness
- Randomized Control Trials
 - results more efficacious than natural recovery
- Best evidence for effective intervention for CWS under 6 years of age³

Clinical Benchmarking

➤ **Definition:**

- Collecting & reporting data on clinical process & outcome
- Used to identify & track progress to the goal
- Compared to similar measures of peers
- Part of the process of identifying best practice

➤ **Benefits:**

- Contributes to clinical process
- Helps compare treatment delivery to standard
- Useful in allocation of funds/management of services
- Little published on stuttering

Can treatment duration be predicted?

- 3 studies; Australia, UK, North America ⁴⁻⁶
- 430 monolingual children
- Median sessions to Stage 2 LP = 11
- Pre-treatment severity (%SS) significant predictor of treatment time

Goal of this study

Replicate previous audits
with a linguistically diverse sample

Subjects

- 54 children
- Aged 33-71 months (median 50 months)
- 45 males 9 females
- All treated at MFC
- No co-morbid speech/language factors
- English/French speaking predominately

Linguistic Diversity

- All exposed to an environment where 2 + languages spoken
- Exposure prior to age 4
 - In school
 - At Home
- Language exposure reported by parents during initial assessment

Methodology

- Jones et al (2000) procedures replicated
- Retrospective file audit
- All treating clinicians had completed 2-day LP workshop
- Children attended MFC 1998-2013
- All < 6 years at onset of treatment
- All completed Stage 1; met criteria for Stage 2
- Files excluded when these criteria were not met

Variables

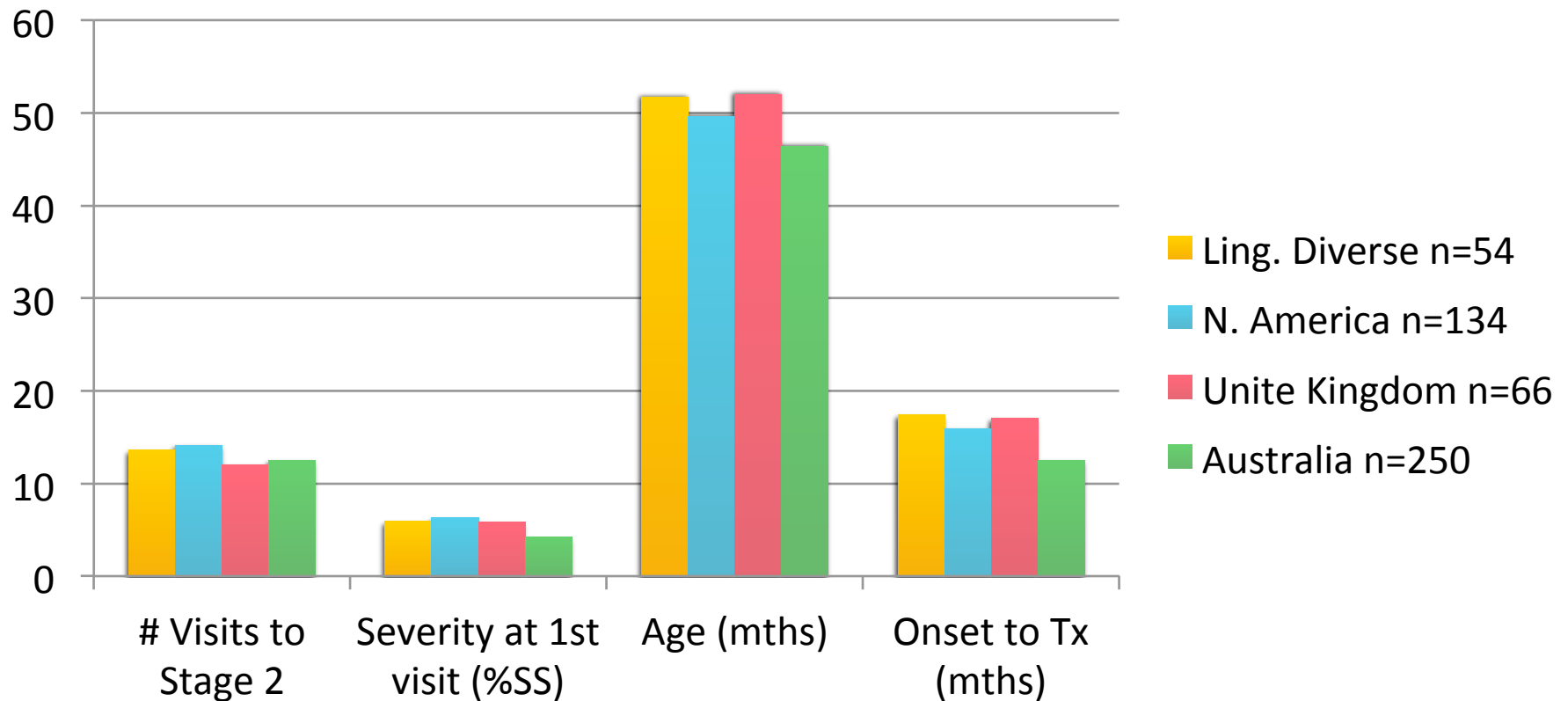
- Dependent
 - Number clinic visits to Stage 2

- Predictor Variables
 - Gender
 - Age at first treatment visit
 - younger/older than 4 years
 - Onset to treatment interval
 - Less than 12 mths/12 mths or more
 - Stuttering severity (%SS) at first treatment visit
 - +/- 5%

Results: Descriptive

| | Onset to treatment (months) | Stuttering Severity at 1 st clinic visit (%SS) | Clinic Visits to Stage II |
|--------------------|--------------------------------|---|------------------------------|
| Mean | 15.0 | 5.0 | 12 |
| Standard Deviation | 9.9 | 4.5 | 9.2 |
| Range | 4 - 43 | 0.5 - 19.6 | 6 - 44 |

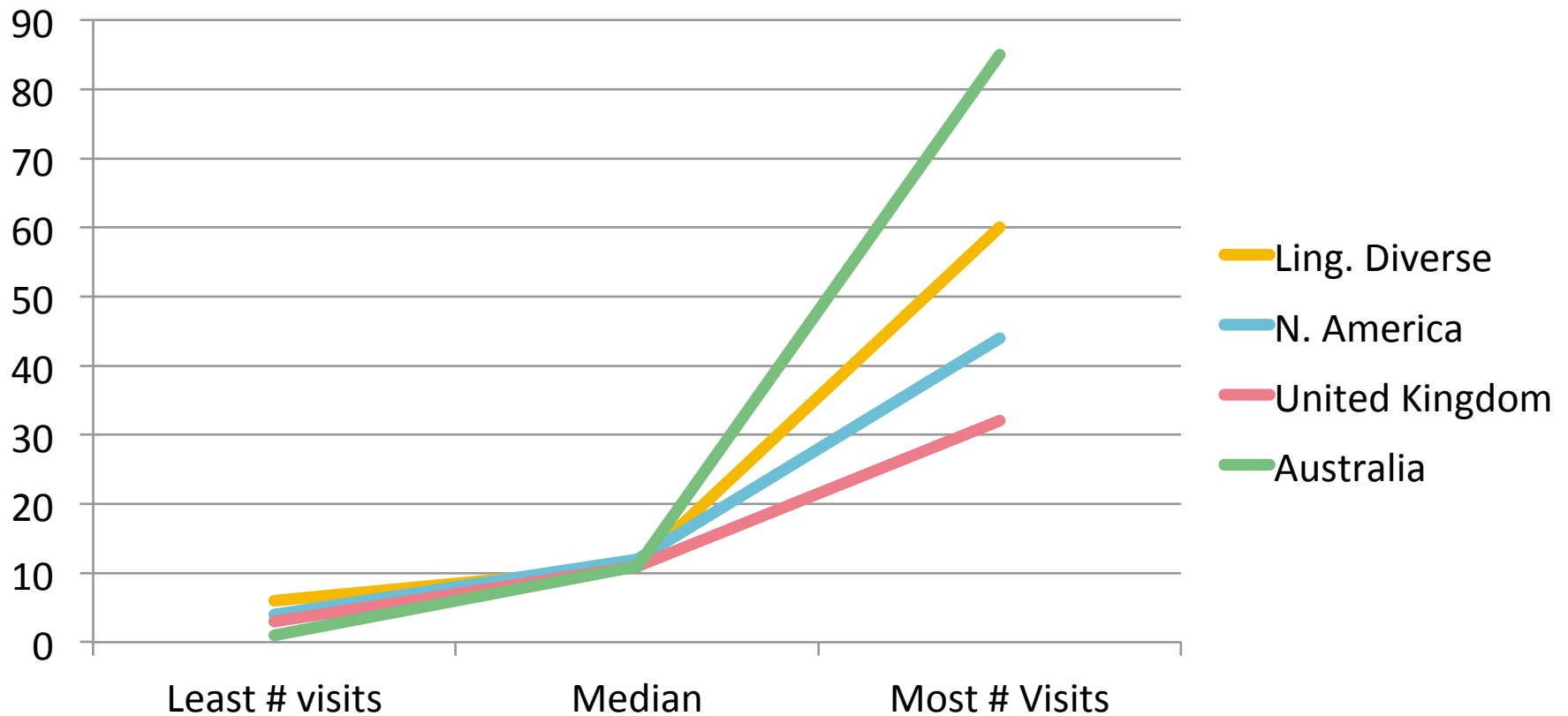
RESULTS: Descriptive Comparison



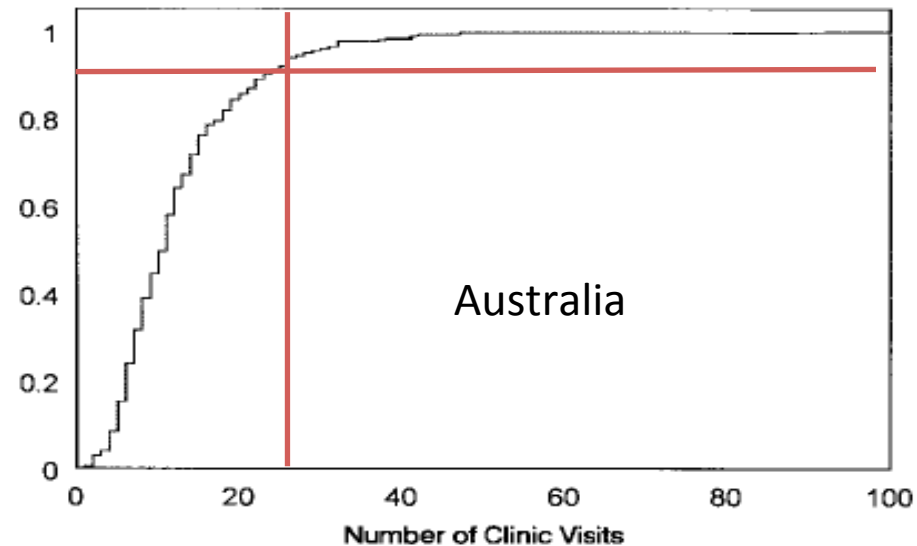
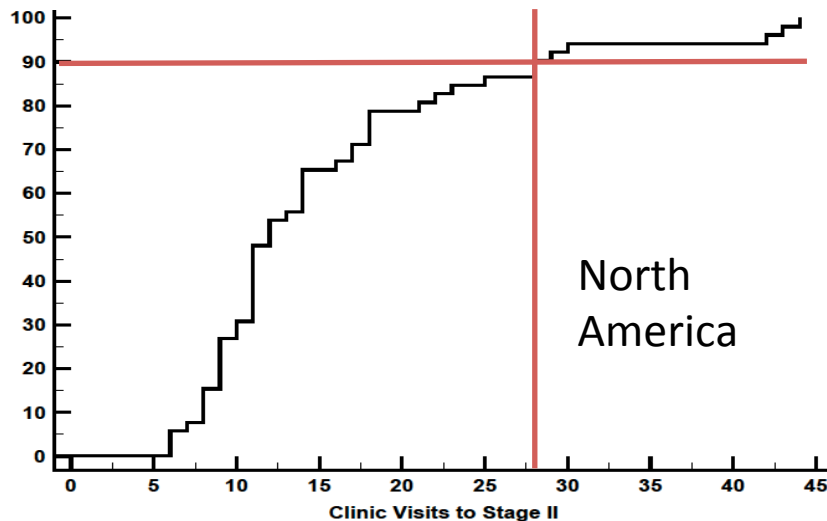
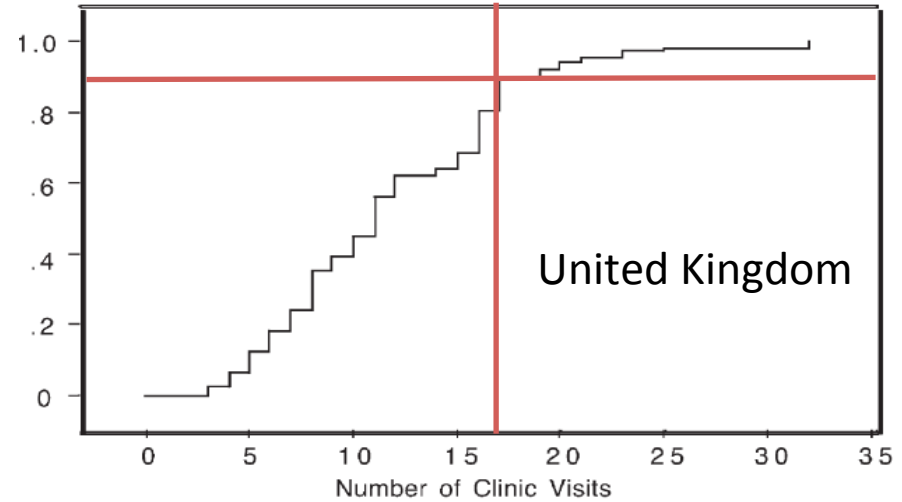
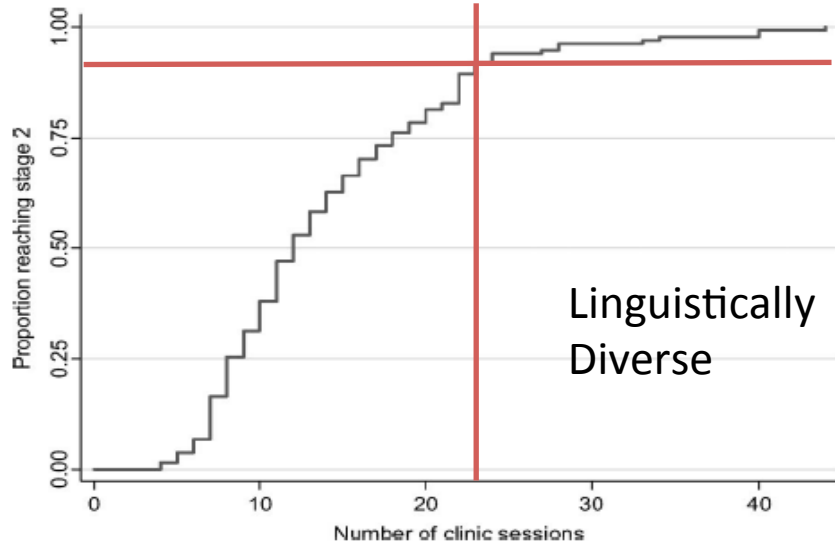
RESULTS: Univariable Logistic Regression

| Variable | | Austalia, UK and NA Cohort | | | Linguistically Diverse Sample | | |
|-------------------------|-----------|----------------------------|----------------|-----------|-------------------------------|----------------|---------|
| | | Odds Ratio | 95% Confidence | p-value | Odds Ratio | 95% Confidence | p-value |
| %SS at 1st Clinic Visit | <5% | 1.0 | | | 1.0 | | |
| | 5% + | 2.3 (5-9.9%SS) | 1.4-3.7 | 0.0008** | 5.7 | 1.79-20.24 | 0.004** |
| | | 5.2 (10%+SS) | 2.5-10.6 | <0.0001** | | | |
| Onset-to-Tx | <12mths | 1.0 | | | 1.0 | | |
| | 12mths+ | 0.76 | 0.50-1.1 | 0.18 | 2.13 | 0.67-7.15 | 0.205 |
| Gender | Male | 1.0 | | | 1.0 | | |
| | Female | 0.70 | 0.44-1.1 | 0.14 | 0.88 | 0.19-3.74 | 0.857 |
| Age | <4 years | 1.0 | | | 1.0 | | |
| | 4 years + | 0.87 | 0.59-1.3 | 0.49 | 1.33 | 0.44-4.12 | 0.611 |

RESULTS: # Visits to Stage II



RESULTS: 90th Percentile comparison



DISCUSSION

- Replicated monolingual findings on a linguistically diverse population
- Median # visits to Stage 2 similar
- Pre-treatment stuttering severity a significant predictor of treatment time for a bilingual sample
- Median (central tendency representing 50th%) similar in all three studies

Discussion

- First benchmarking data for treatment time to Stage 1 of the LP for a linguistically diverse population
- Replicates studies with monolingual children
- First step in comparing outcome for bilingual children
- Useful when planning and delivering early stuttering intervention

Future studies

- Similar methodology from other treatments
- Do trained clinicians get the same results?
- Languages other than English/French
- Impact of choice of treatment language on treatment time; e.g., mother tongue/L2
- Long term outcome for bilinguals
- Importance of severity as a predictor