



Government of **Western Australia**
South Metropolitan Health Service

WA Tertiary Statewide Audiology Service

Paediatric Hearing Registry

Pilot: Development and Implementation

Dayse Távora-Vieira (PhD, AuD)

Head of Audiology

Associate Professor University of Western Australia & Curtin University

Caris Bogdanov^{1,2} | Karin van der Merwe² | Vivien Schrader² | Andre Wedekind^{2,3}

Tamara Veselinović^{1,5,6} | Christopher Brennan-Jones^{3,4,5,6}

¹School of Human Sciences, University of Western Australia, Crawley, Perth WA

²Department of Audiology, Fiona Stanley Fremantle Hospitals Group, Murdoch, Perth WA

³Medical School, University of Western Australia, Crawley, Perth WA

⁴School of Allied Health, Faculty of Health Sciences, Curtin University, Bentley, Perth WA

⁵Telethon Kids Institute, The University of Western Australia, Nedlands, Perth WA

⁶Audiology Department, Perth Children's Hospital, Nedlands, Perth WA



Acknowledgements



Government of **Western Australia**
South Metropolitan Health Service



Paediatric Hearing Registry: Rationale

Background:

- **Early diagnosis** and **timely intervention** are essential for optimal outcomes in paediatric hearing loss treatment.
- In Western Australia, the absence of a standardised model of care for service provision and a tracking system to monitor patient outcomes leads to **delayed assessment, diagnosis** and **intervention**.
- Additionally, the lack of a centralised data repository for collaborative data sharing across hearing health services limits the **evaluation of outcomes** and **opportunities** for **clinical practice improvement**.



Paediatric Hearing Registry: Rationale

Objective:

- To develop and maintain a paediatric hearing and ear health registry to monitor children from the **initial assessment** and **diagnosis** to **intervention, treatment** and subsequent **outcomes**.
- Standardisation of data collection processes to:
 - Facilitate **data sharing** and collaboration
 - Allow effective **service coordination** and quality improvement in clinical practice
 - Yield better outcomes for **paediatric hearing** and **ear health management**



Paediatric Hearing Registry: Platform

REDCap = Research Electronic Data Capture

- Web-based software for designing clinical, translational and quality improvement databases
- Widely used data management system, **approved by WA Healthcare Department**
- Extended to replace the workflow of many form/paper driven administrative tasks



Paediatric Hearing Registry: Development

- The platform was selected and developed as

- An accessible clinical tool to **streamline data collection** in a standard audiology clinic
- Capacity to **integrate longitudinal data** to track outcomes
- Link to WEBPAS for **accurate** and **up-to-date** demographic information

Future plans to link with Digital Medical Record (DMR)

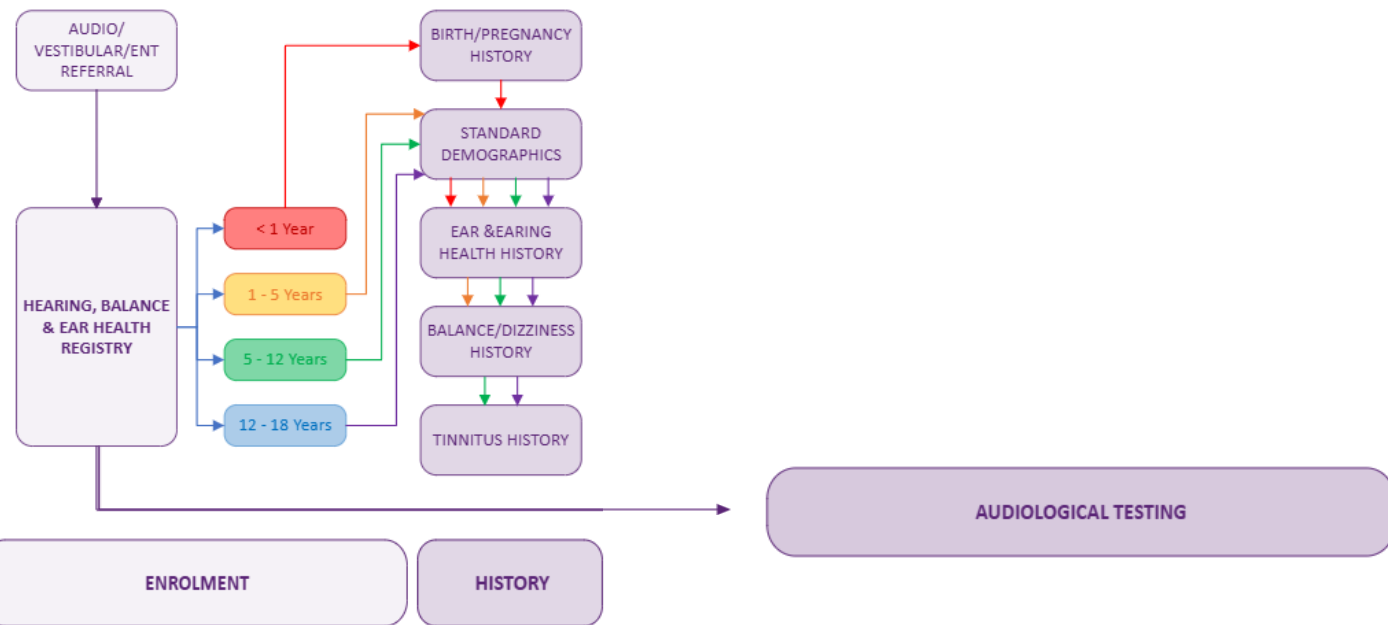
- **Consumer and healthcare professional feedback**

- Integrated to ensure comprehensive tool suitable for clinical implementation, and;
- Guide necessary adjustments before broader implementation in the future



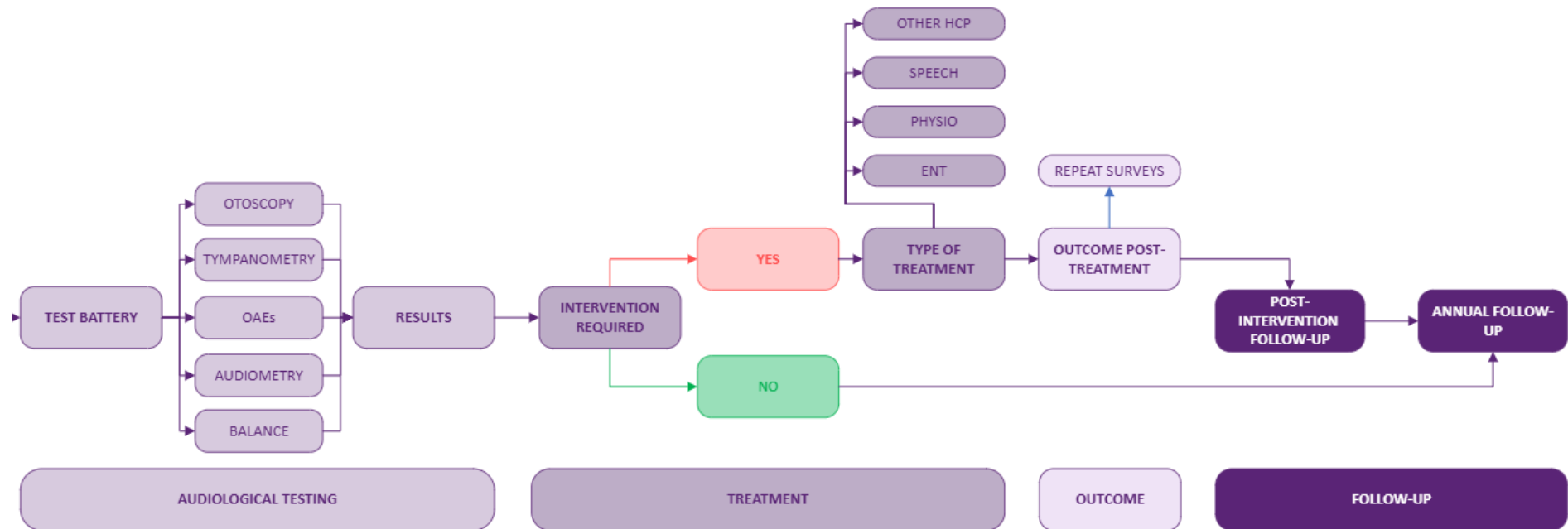
Paediatric Hearing Registry:

Data Collection Pipeline



Paediatric Hearing Registry:

Data Collection Pipeline



Paediatric Hearing Registry: Example

PATIENT INFORMATION	
URN:	<input type="text"/>
NAME:	<input type="text"/>
DOB:	<input type="text"/> (____ yrs)

← Patient Information

APPOINTMENT INFORMATION	
Appointment Date	<input type="text"/> Today D-M-Y
Clinician Name	<input type="text"/>
Clinic	<input type="text"/>
Site	<input type="text"/>
Reason for Appointment	<input type="text"/>

← Appointment Information

GENERAL HISTORY	
Attended with	<input type="checkbox"/> Alone <input type="checkbox"/> Mother <input type="checkbox"/> Father <input type="checkbox"/> Friend <input type="checkbox"/> Guardian <input type="checkbox"/> Other
Comments/Concerns	<input type="text"/>
Medical History	<input type="text"/>
Hearing History	<input type="text"/>

← General History



User Friendly Interface



Streamline with Clinical Procedure



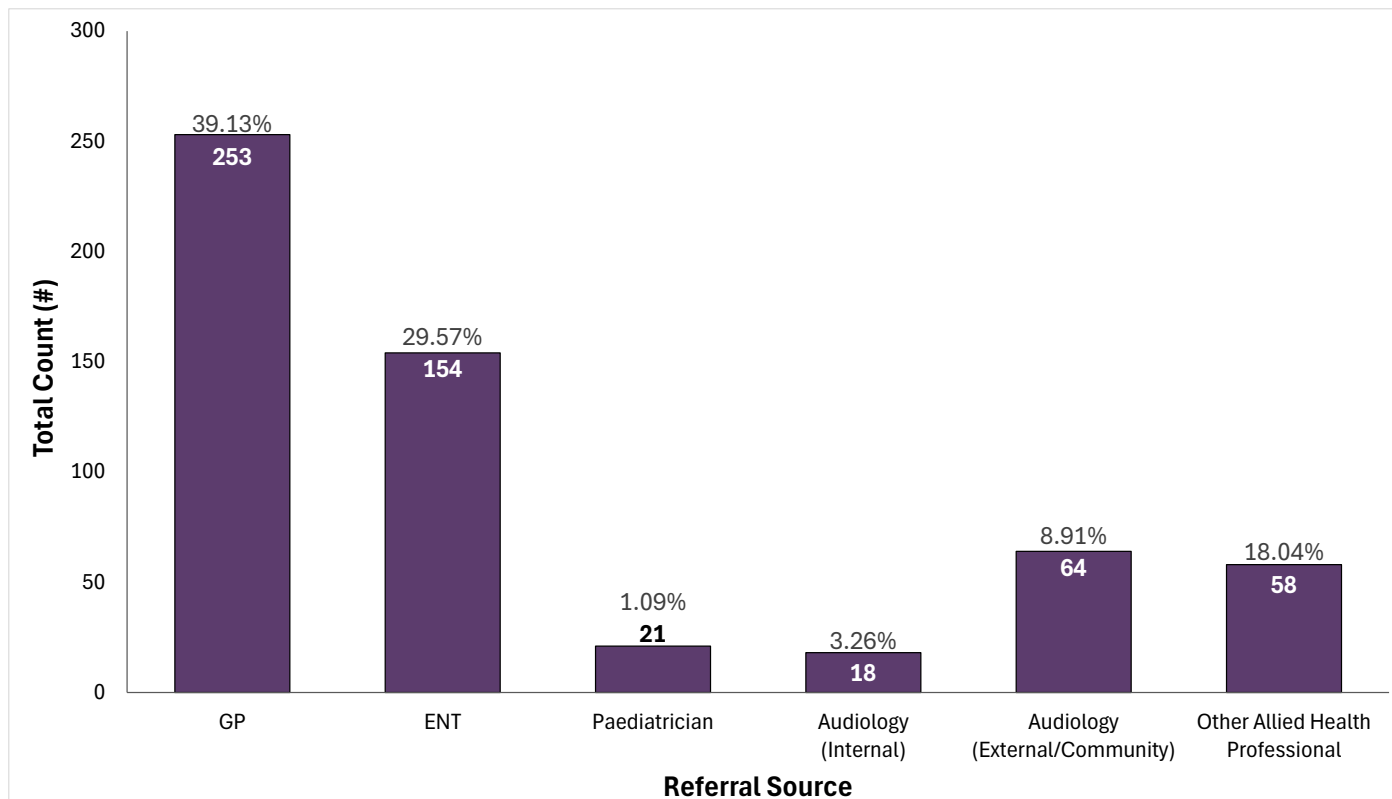
Quick & Easy to Enter Data



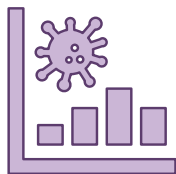
Paediatric Hearing Registry: Pilot Data



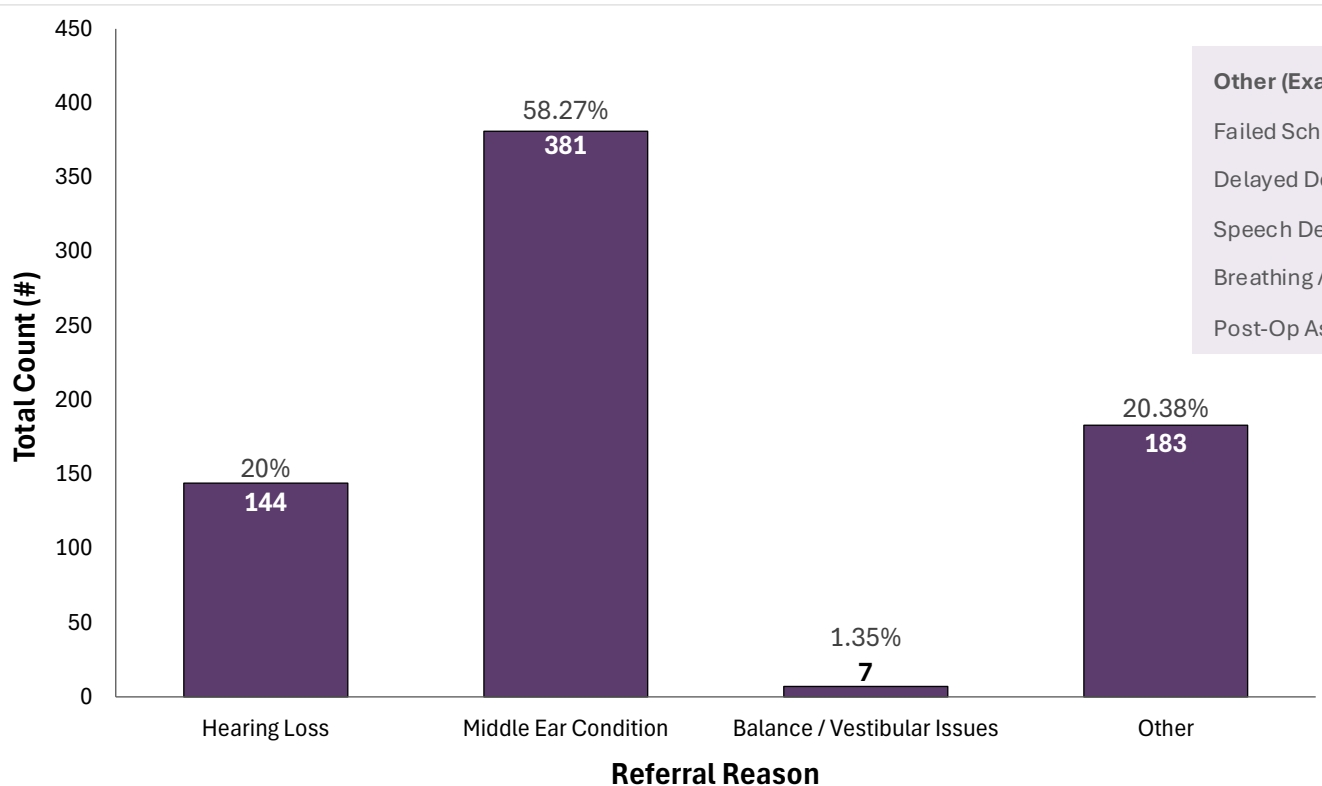
Referral Source:



Paediatric Hearing Registry: Pilot Data



Referral Reason:



Other (Examples):

- Failed School Screening
- Delayed Developmental Milestones
- Speech Delay
- Breathing / Snoring Issues
- Post-Op Assessment



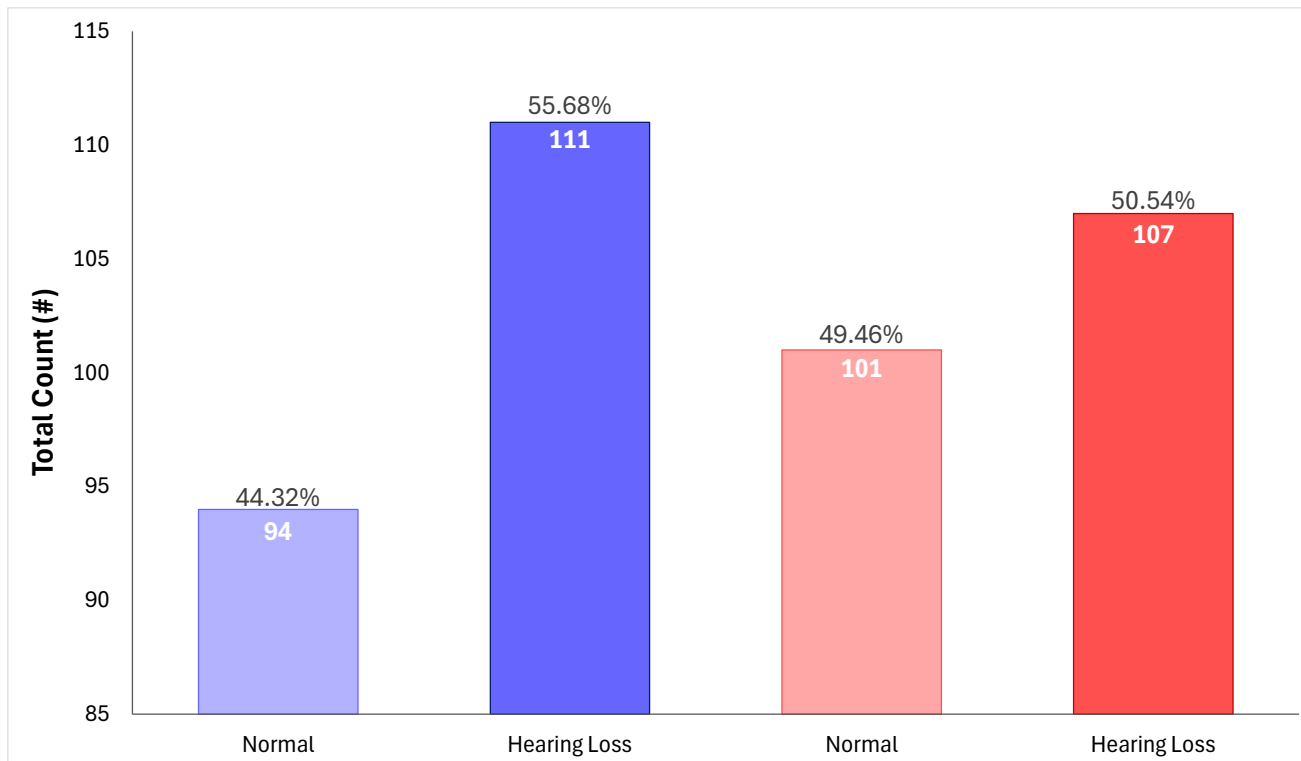
Paediatric Hearing Registry: Pilot Data

Left Ear

Normal: 44.32%

Right Ear

Normal: 49.46%



Left Ear



Initial Assessment Findings

Right Ear



Paediatric Hearing Registry: Summary



Operational – Pilot Successful



Replicable Across the State



Streamline with Clinical Procedures



Facilitate data capture with limited additional workload for clinicians



Next steps...

*The registry seeks to enhance the broader development of a standardised clinical tool for hearing healthcare professionals to **effectively monitor** patient **management, treatment** outcomes and the **services** provided.*



Thank You

