

Prevalence of ear disease and hearing loss in Aboriginal children living in metropolitan South Australia

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Language
Speech

Education
Literacy
Numeracy

Employment

Social well being

Emotional well being

Quality of life

Ref:- AIHW, *Australia's health 2018*. , in *Australia's health series no. 16. AUS 221*. . 2018,
Australian Institute of Health and Welfare 2018: Canberra. Still waiting to be heard...report on the inquiry into the
hearing health and well being of Australia. Canberra September 2017
Photocredit: mamanyc.net

SA Health



Aims

- > To describe the Under Eight's Aboriginal Ear Health Screening Program
- > To describe prevalence rates of middle ear disease in young Aboriginal children living in metropolitan locations of South Australia



Under Eight's Aboriginal Ear Health Screening Program

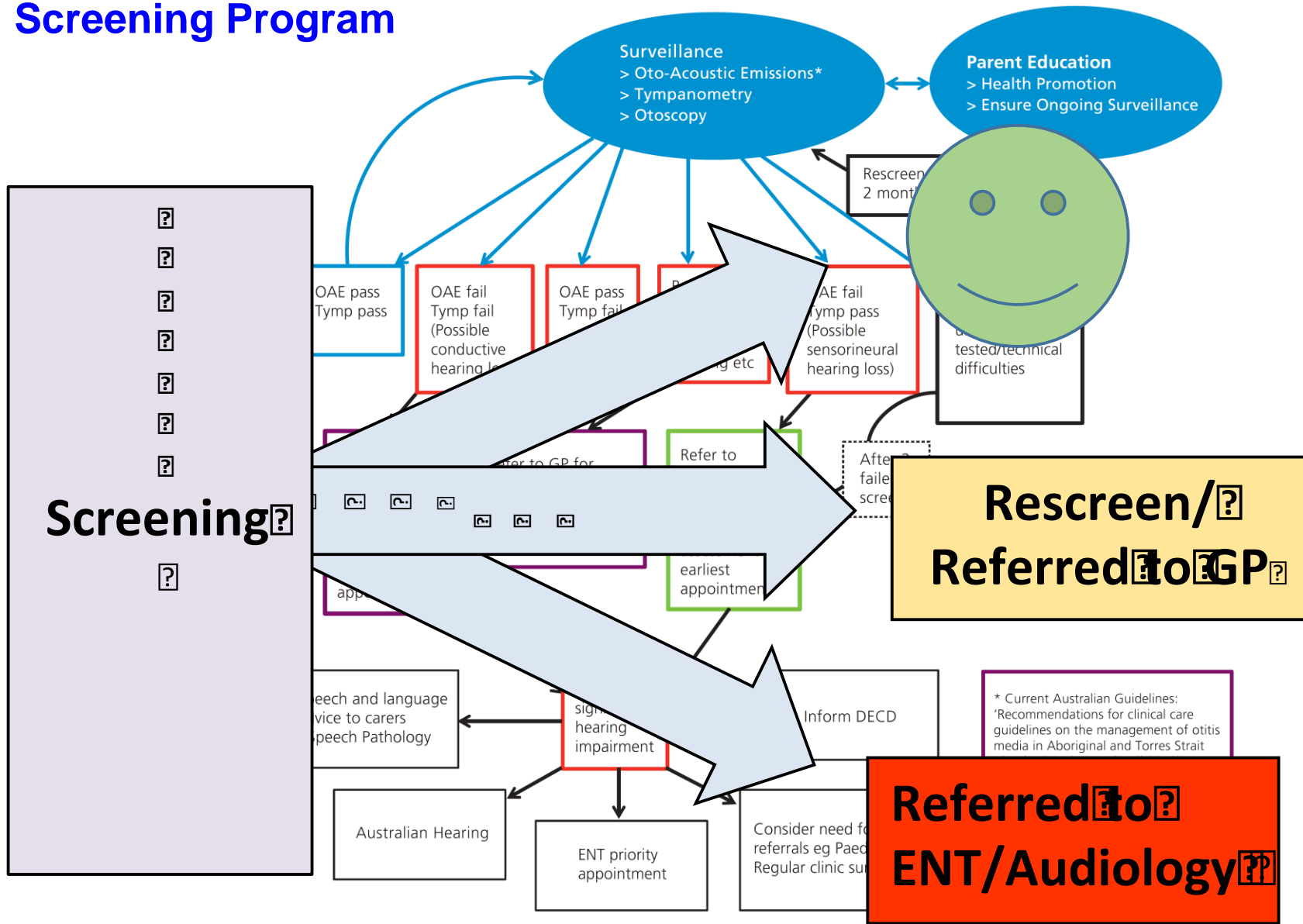
- > Watto Purrinna Aboriginal Primary Health Care Service
- > Ear screening is part of the child health check done by Aboriginal Health Practitioner
- > Program services are delivered in early childhood centres, schools and Aboriginal health services

Ear health assessment consists of

- **Otoscopy**
- **Tympanometry**
- **Oto-Acoustic Emission (OAE) testing**
- **Ear health promotion advice**



Referral pathways- Under Eight's Aboriginal Ear Health Screening Program






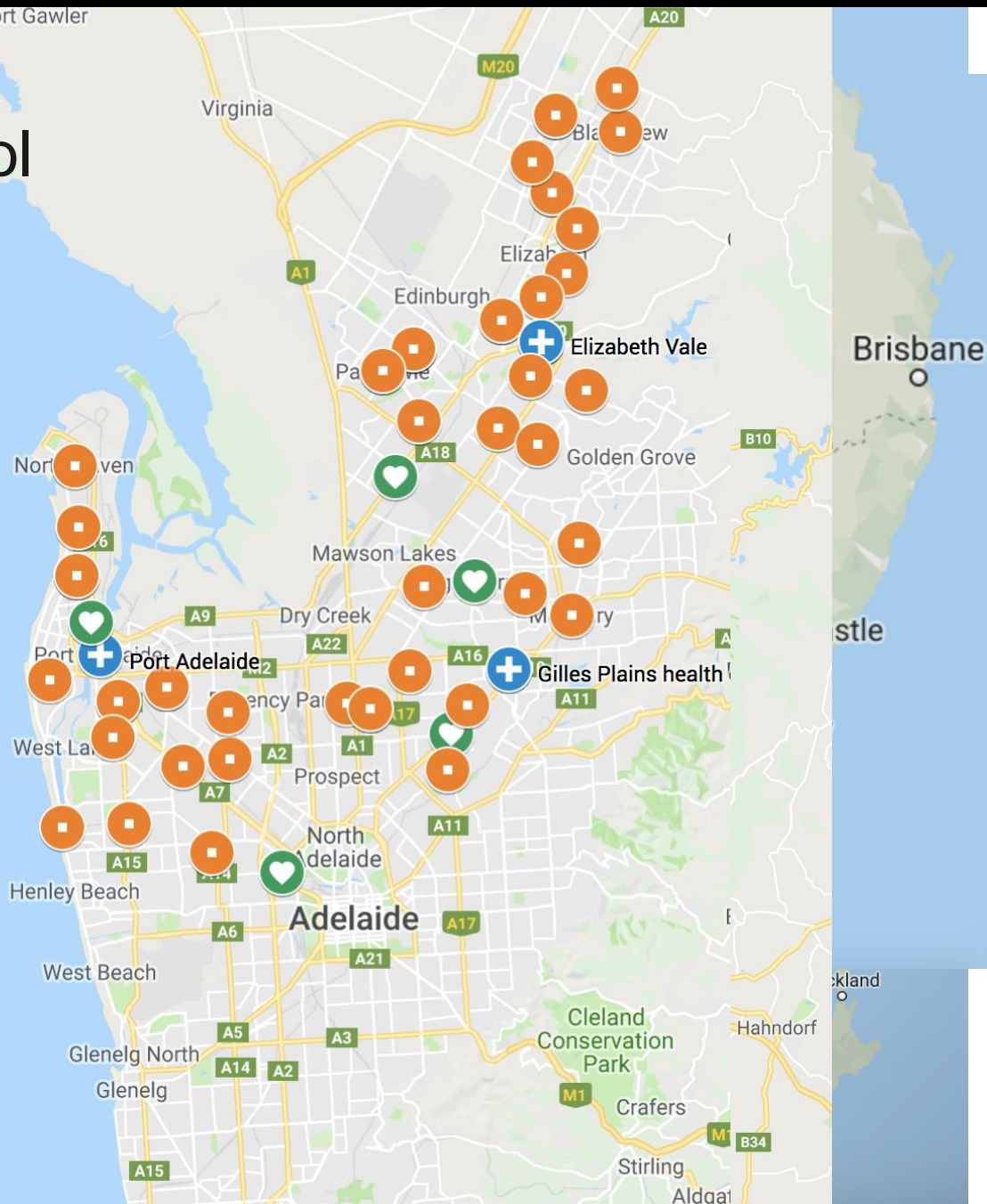
*Oto-Acoustic Emissions testing (OAE) is used as a hearing screen. It detects sound emissions from the inner ear and is useful when screening young children



Results

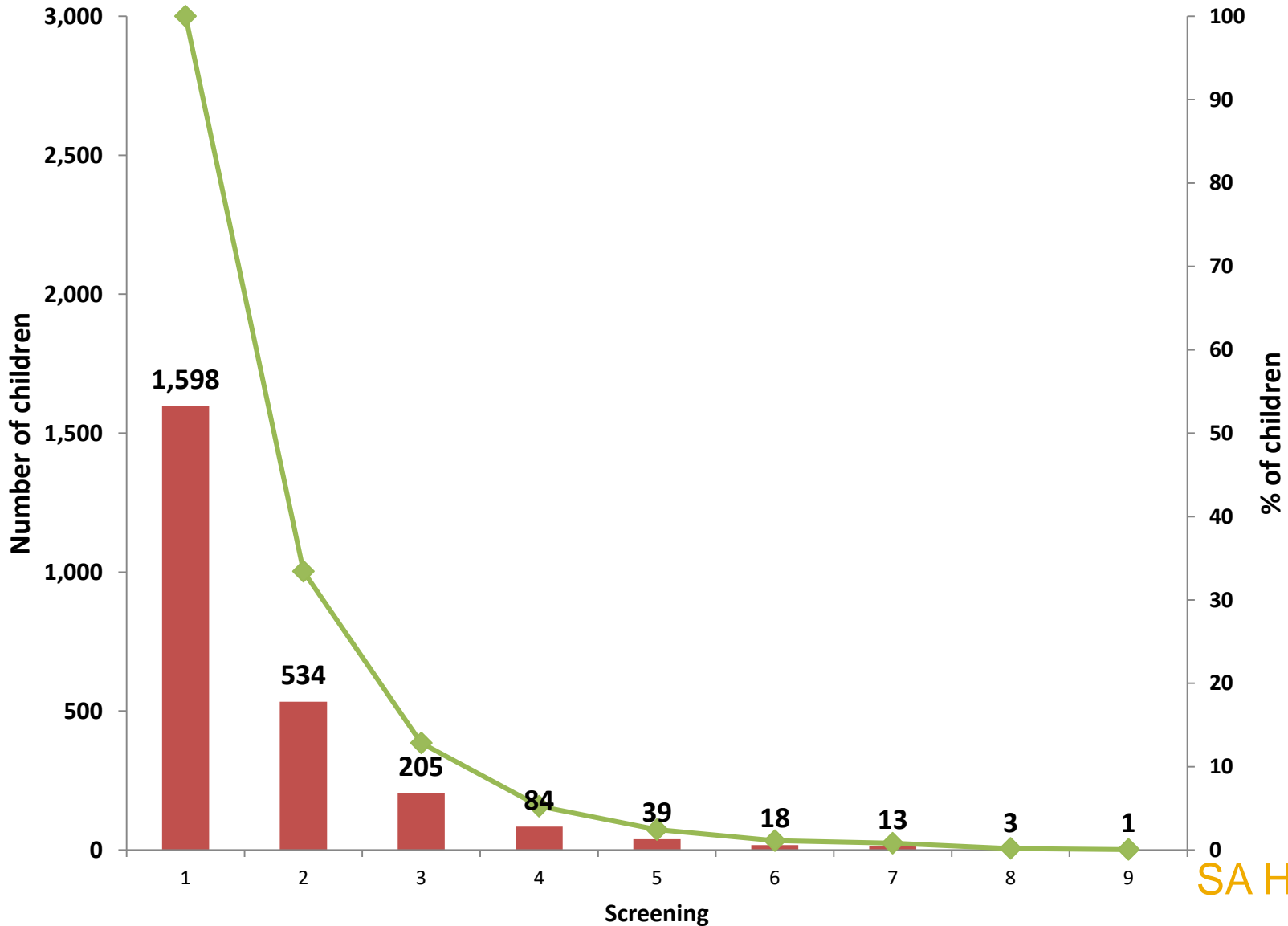
Under Eight's Aboriginal Ear Health Screening Program

-  Primary School
-  Pre-school
-  Health Centre

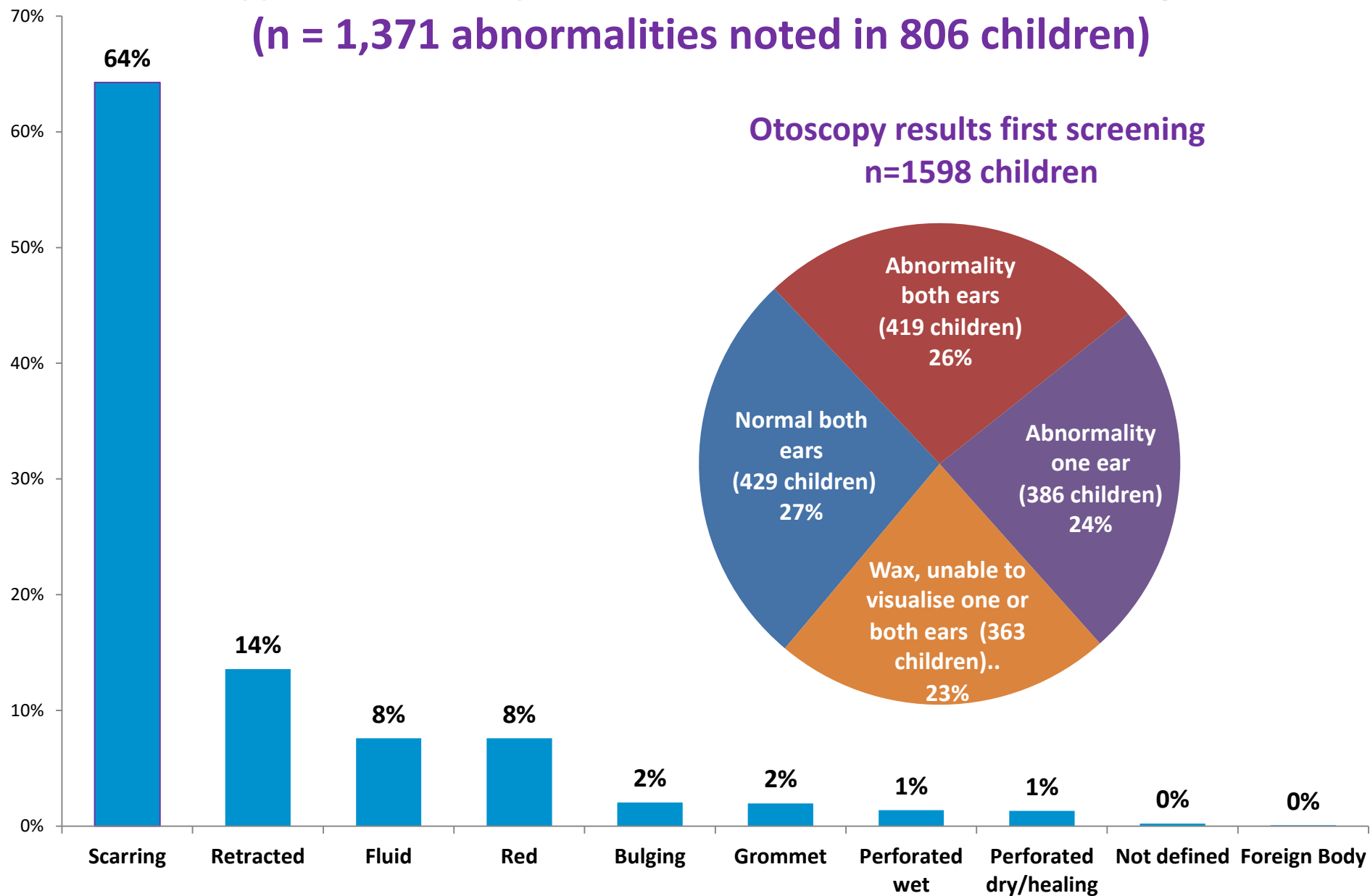


Number & percentage of children screened

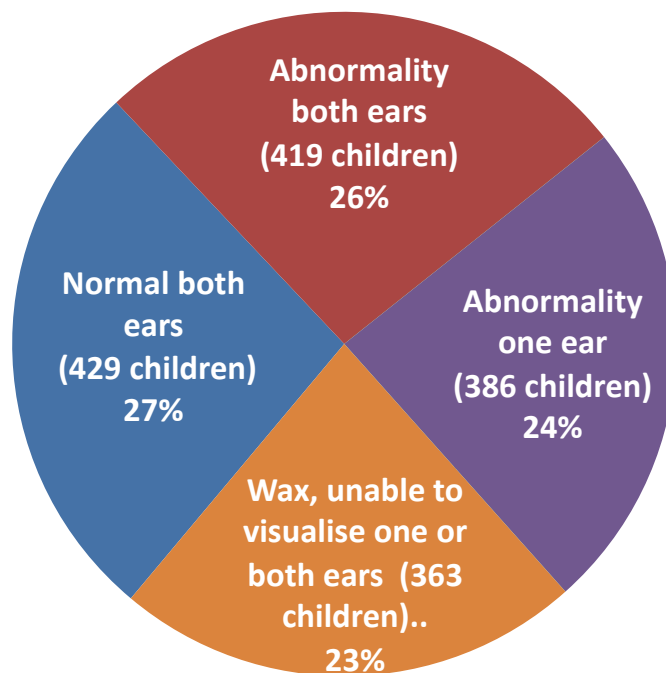
■ Number ◆ % re-screened



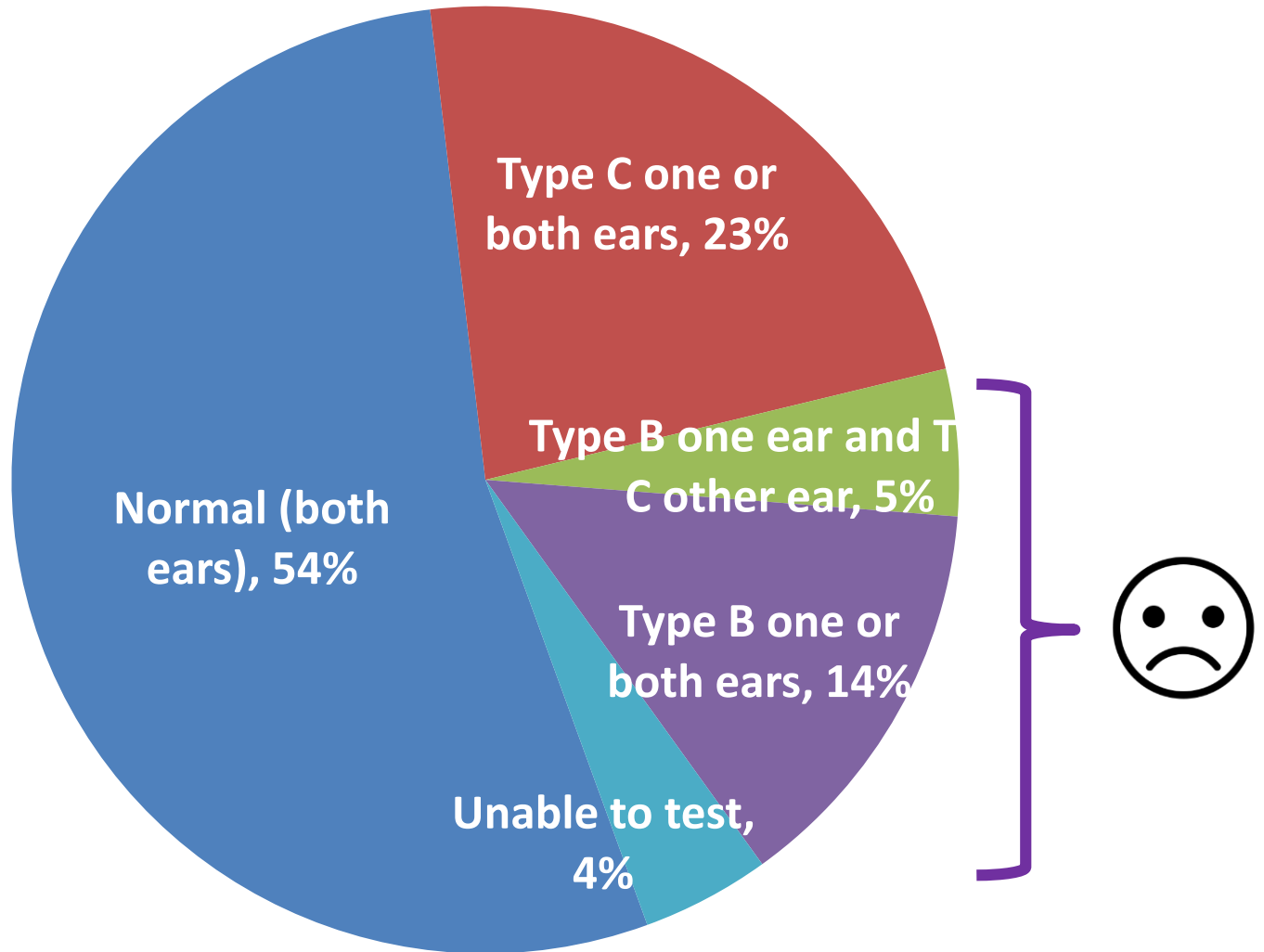
Types of otoscopic abnormalities at first screening (n = 1,371 abnormalities noted in 806 children)



Otoscopy results first screening n=1598 children

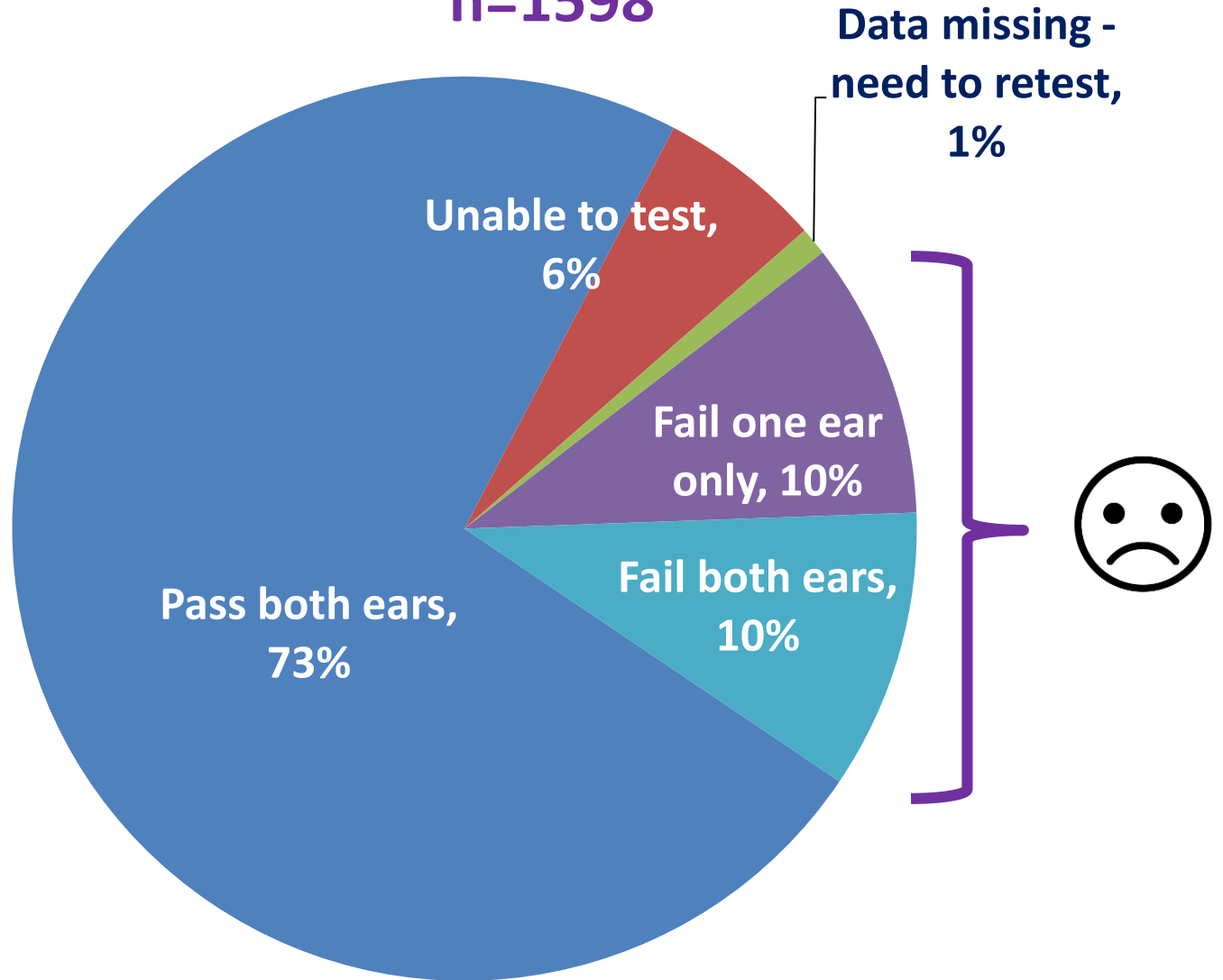


Tympanograms at first screening n=1,598

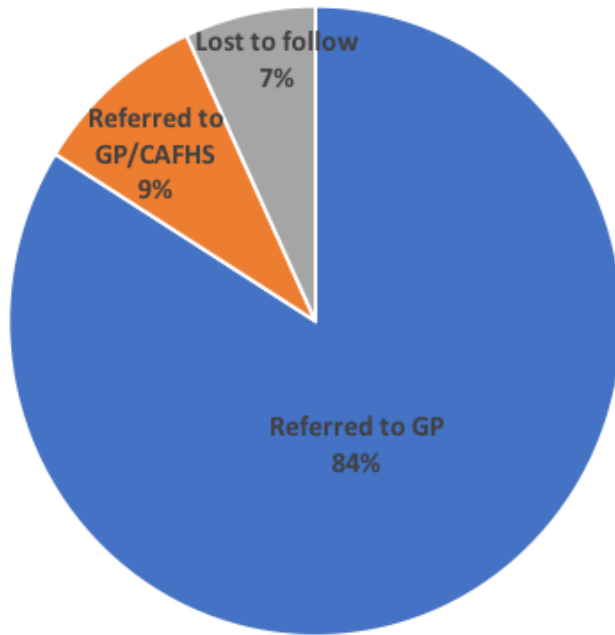


OAE results at first screening

n=1598

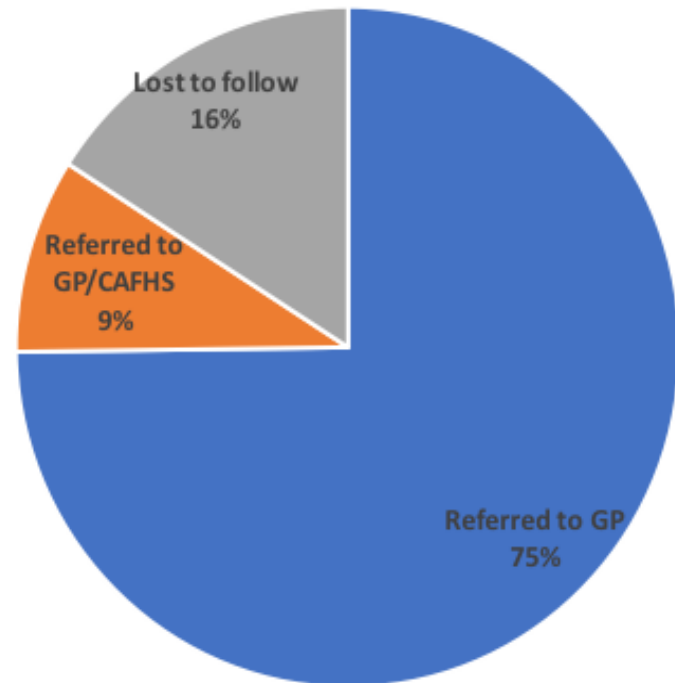


87 Children diagnosed with Acute OM



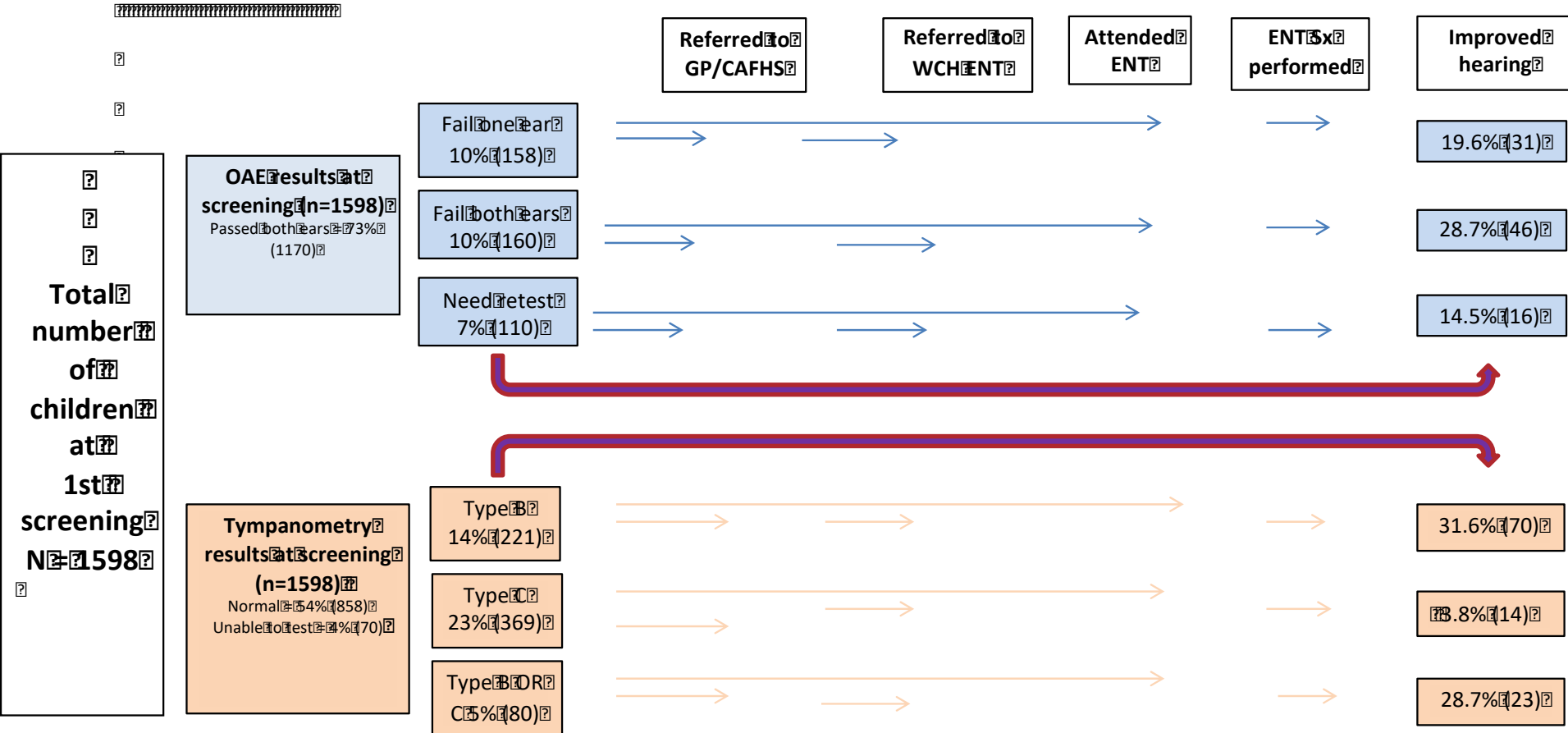
Prevalence of AOM and OME

464 Children diagnosed with OME



- **Acute OM (Otitis Media)** defined as **Type B Tympanometry** with either **bulging** or **red (or both)** tympanic membrane

- **OME (Otitis Media with Effusion)** defined as **Type B Tympanometry** without bulging or red tympanic membrane



Definitions: OAE: Otoacoustic Emission; GP: General Practitioner; CAFHS: Child and Adolescent Family Health Services; WCH ENT: Women's and Children Hospital Ear Nose Throat



Conclusion and recommendations

- > High prevalence rates of OM and failed hearing tests
- > Early identification through screening allows timely intervention
- > This pilot program's review has identified the need of
 - a suitable and database to monitor screening
 - further support to sustain the program
- > Involvement of Aboriginal Health practitioner has played a key role in successful engagement of families and communities

Acknowledgements

- > Program participants – children and families
- > Watto Purrinna Aboriginal Primary Health Care Service – Kurt Towers, Leanne Quirino, Shirlene Sansbury and team at Watto Purrinna
- > SA Health – Under Eight's Aboriginal Ear Health Program Steering Group members and research team
 - Dr Nicola Spurrier
 - Dr Annapurna Nori
 - Dr Wendy Scheil
 - Dr Casey Nottage
 - Ms Toni Shearing
 - Dr David Johnson (AHCSA)

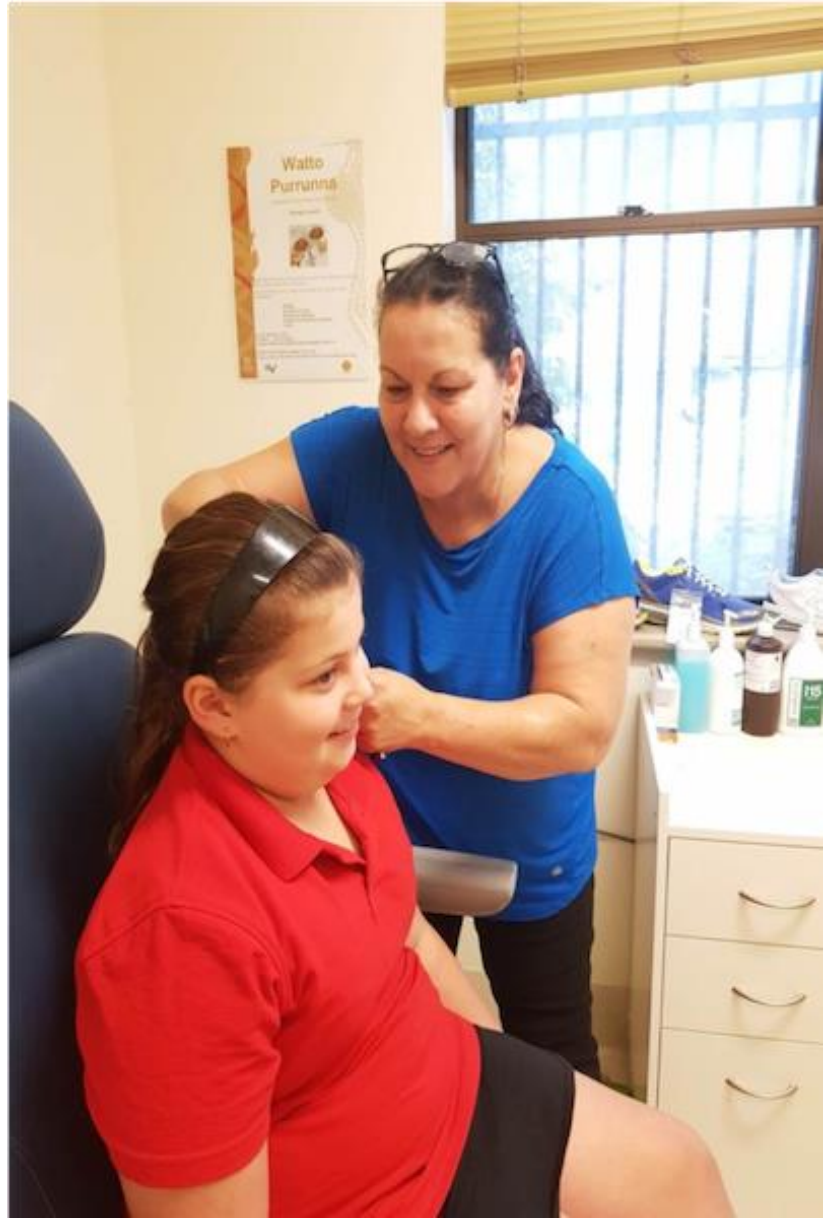
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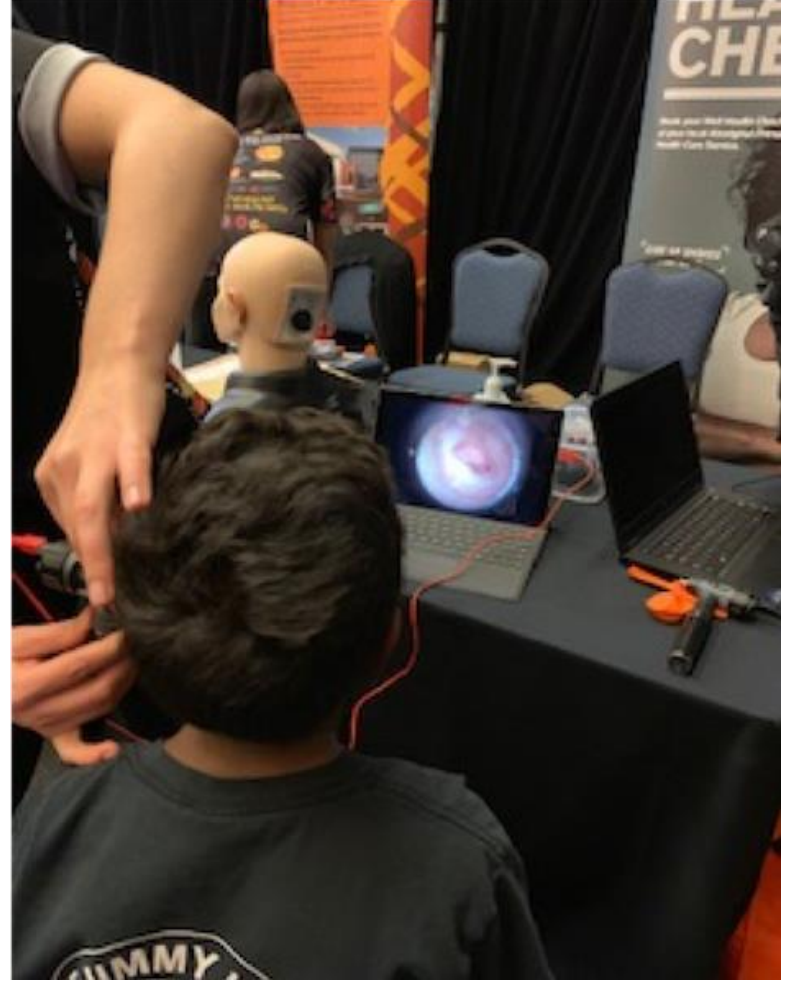
Under Eight's Aboriginal Ear Health Screening Program







8th Annual Strong Aboriginal and Torres Strait Islander (ATSI) Children's and Families Health Expo



Video Otoscope



Otoacoustic Emission (OAE)







Audiology Clinic at Lyell McEwin Hospital (LMHS) New Referral Pathway to Audiology/ENT





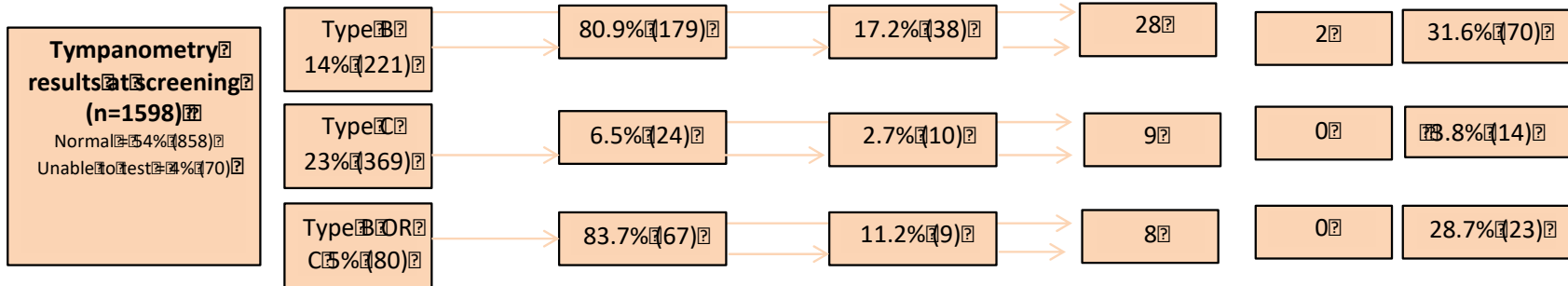
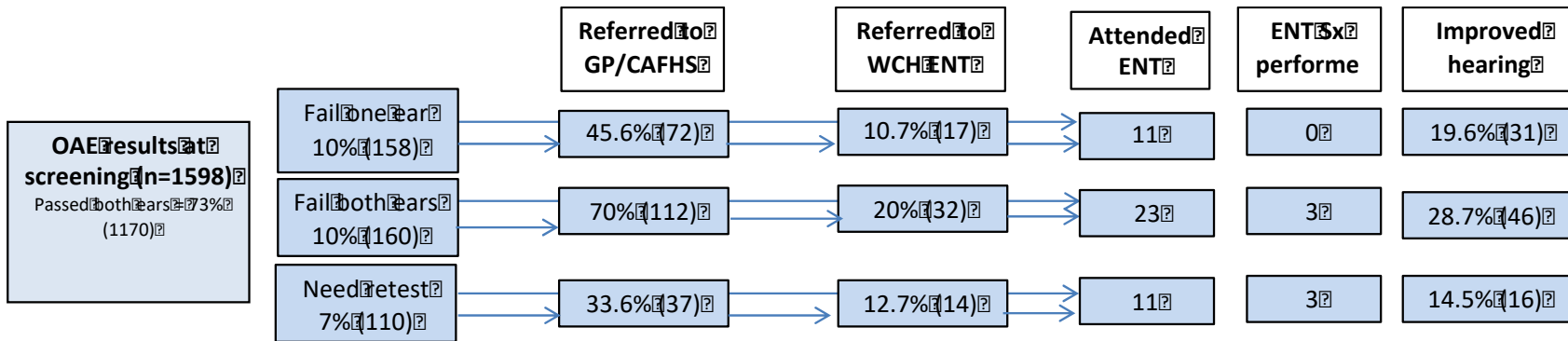
Thank you



Extra slides- not for presentation

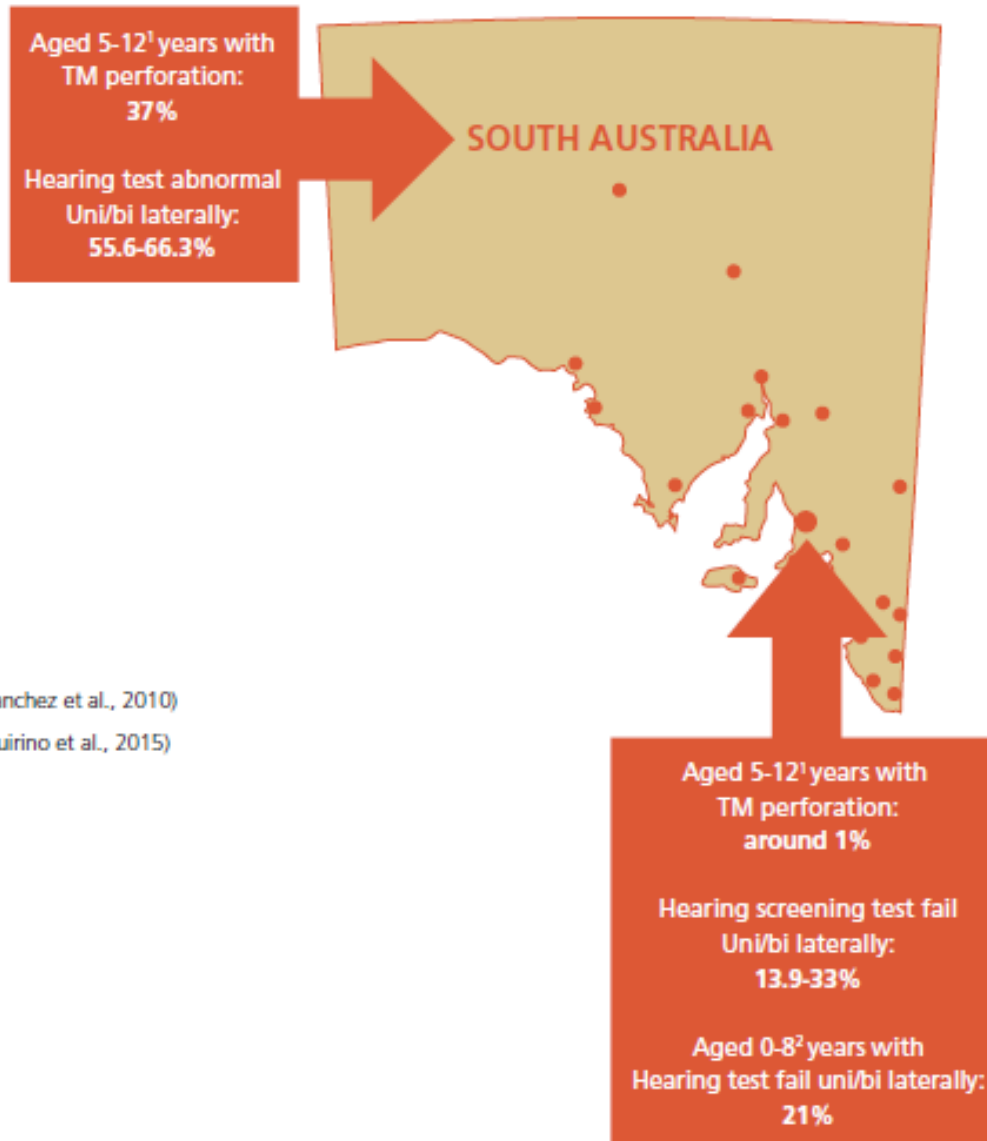
Domain		
Age at 1st screening		
Mean age in years (range)	6.26 years (7 weeks - 15 and a half years)	
Age groups at 1st screening	n	%
<1 year	53	3.3
1 to <3 years	205	12.8
3 to <5 months	401	25.1
5 to <8 years	454	28.4
>8 years	485	30.3
Postcode SEIFA Index		
1	831	52
2	324	20.3
3	318	19.9
4	50	3.1
5	25	1.6
Address not provided	50	3.1
Gender		
Female	784	49.1
Male	814	50.4
Immunisation status		
Up to date	1404	87.8
Don't know	159	9.9
Vaccination required	35	2.2
Dental Check assessment		
Discoloration of teeth	27	1.7
No abnormality	1,438	89.9
No abnormality but for referral	25	1.6
Unable to perform assessment	104	6.5
Other abnormality	4	0.2
Speech Assessment		
Significant delay	35	2.2
Possible delay	184	11.5
No delay	1,280	80.1
Unable to perform assessment	99	6.2

Total number of children at 1st screening
N=1598



Definitions: OAE:Otoacoustic Emission; GP: General Practitioner; CAFHS: Child and Adolescent Family Health Services; WCH ENT: Women’s and Children Hospital Ear Nose Throat

Aboriginal children's ear and hearing health by geographical location in South Australia



¹Sanchez et al., 2010)

²Quirino et al., 2015)

Prevalence rates in Aboriginal children

> Acute Otitis Media

- 7.1 to 12.8%

> Chronic Suppurative Otitis Media

- 10.5 to 30.3%

> Tympanic Perforation:

- 31 to 50%

