


Evaluation of a mobile hearing screening and Ear Doctor Bus incorporating ear telehealth

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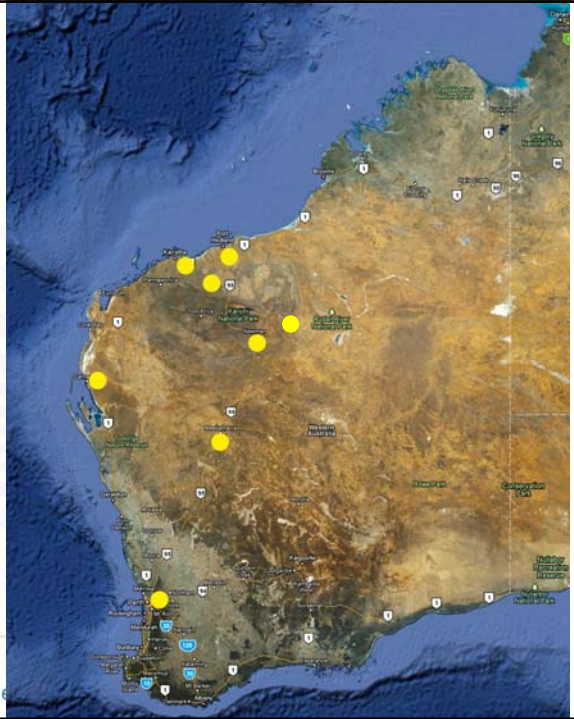


ESIA's Telehealth Programme



ESIA's telehealth programme

- Pilbara
- Gascoyne
- MidWest
- Perth



Ear Doctor Bus

Collaborative project

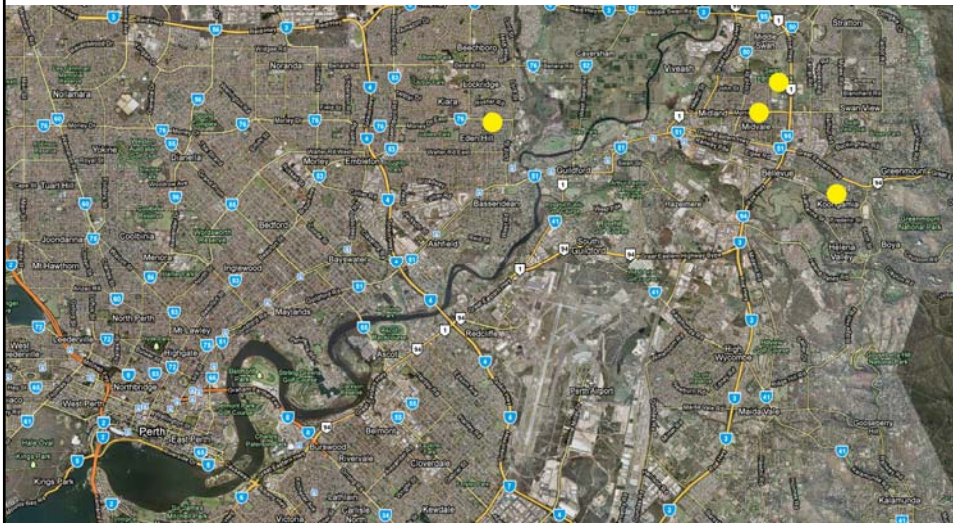
- ESIA/ESC
 - Rob Eikelboom, Brett Robertson, Peter Friedland, Vesna Maric
- Perth Primary Care Network
 - Modupe Adeleke, Tahlia Kinnane, Dianne Ryder
- Telethon Speech and Hearing
 - Paul Higginbotham, Norman Davies
- Bernie O'Hara, Moorditj Noongar Community College
- Office of Aboriginal Health

Ear Doctor Bus

- TSH - Hearing screening indigenous children at primary schools in Midland area



Locations



Referral pathway

- Audiologist/audiometrists

- Screen hearing
- Test middle ear function
- History
- Refer if no change after review



Referral pathway

- GPs/nurses/family manage ear conditions

- Ear toileting
- Antibiotics drops
- Refer if persistent ear disease and/or HL



Referral pathway

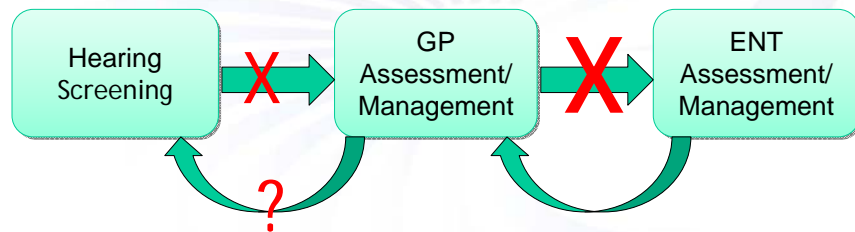
- ENTs
 - More aggressive therapy
 - Grommets for glue ear
 - Ear drum repair for perforations



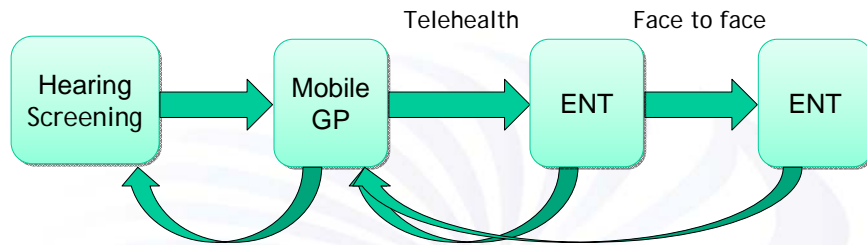
Referral pathway

Barriers

- Access to GP services difficult
- Access to ENT even more difficult
- Little feedback to screeners



Ear Doctor Bus



Results – Screening 2008

First Screening	School	Number	Mean age (yrs)	Failed screening (n)	Failed screening (%)
	1	235	8.2	70	29.8
	2	225	7.8	135	60.0
	3	143	8.0	59	41.3
	4	107	8.1	84	38.4
	Total	822	8.0	348	42.3

Review Screening	School	Number	Mean age (yrs)	Failed screening (n)	Failed screening (%)
	1	53	8.1	19	35.8 (8.1)
	2	106	7.4	73	68.9 (32.4)
	3	54	7.7	34	63.0 (23.8)
	4	47	7.3	32	68.1 (14.6)
	Total	260	8.0	158	60.8 (19.2)

Results - Screening



School	Initial Screening			Review Screening		
	Hearing reduced	Middle ear pathology (ears)	Discharge (ears)	Hearing reduced	Middle ear pathology (ears)	Discharge (ears)
1	49	22	1	13	3	0
2	99	95	11	58	61	5
3	41	29	4	22	19	2
4	55	38	2	17	24	3
Total	244	184	18	110	107	10

Results – Referrals to GP and ENT

- 106 (of 158) seen by GP after referral from hearing screening
- 54 Referred to ENT by telehealth

	Seen by Ear Doctor Bus	Referred to ENT
Males	60	33
Females	46	21
Mean age - males (years)	7.97	6.78
Mean age - females (years)	8.76	9.73

Results – Review by telehealth

- 51 Reviewed by ENT by telehealth

Outcome of telehealth assessment	Number	%
Referred to ENT for assessment	29	57
Referred to ENT for surgery	8	16
Referred to audiologist	14	27
Referred back to GP	24	47
Referred back to GP only for management	16	31

Results – Assessment by ENT

Outcome of ENT assessment	Number
Seen by ENT	44
<i>Seen by ENT and requested by telehealth ENT</i>	<i>19</i>
Booked for surgery	5
Medication	8
Review	14
Full audiometry	10
Observe for sleep disorder	5

Results – Summary

- 822 screened → 348 failed
- 260 rescreened → 158 failed - referred to GP
- 106 seen by GP → 54 referred to telehealth ENT
- 51 reviewed by telehealth → 29 referred to ENT
- 19 reviewed by ENT

Outcomes

- Success - 30% reduction in number of children requiring to see ENT face-to-face
- Success - ENT now conducts clinics in local area
- Failure - ENT sees no need for telehealth
- Failure - Funding for Ear Doctor Bus not continued
- Success - TSH found funds to continue to support GP
- Success - Speech therapist works at school
- Success - School increasing use of sound fields
- Success - School arranged vision testing
- **SUCCESS - Better outcomes for children**