

Evaluation of foot health services for Indigenous community members of the Central Coast NSW

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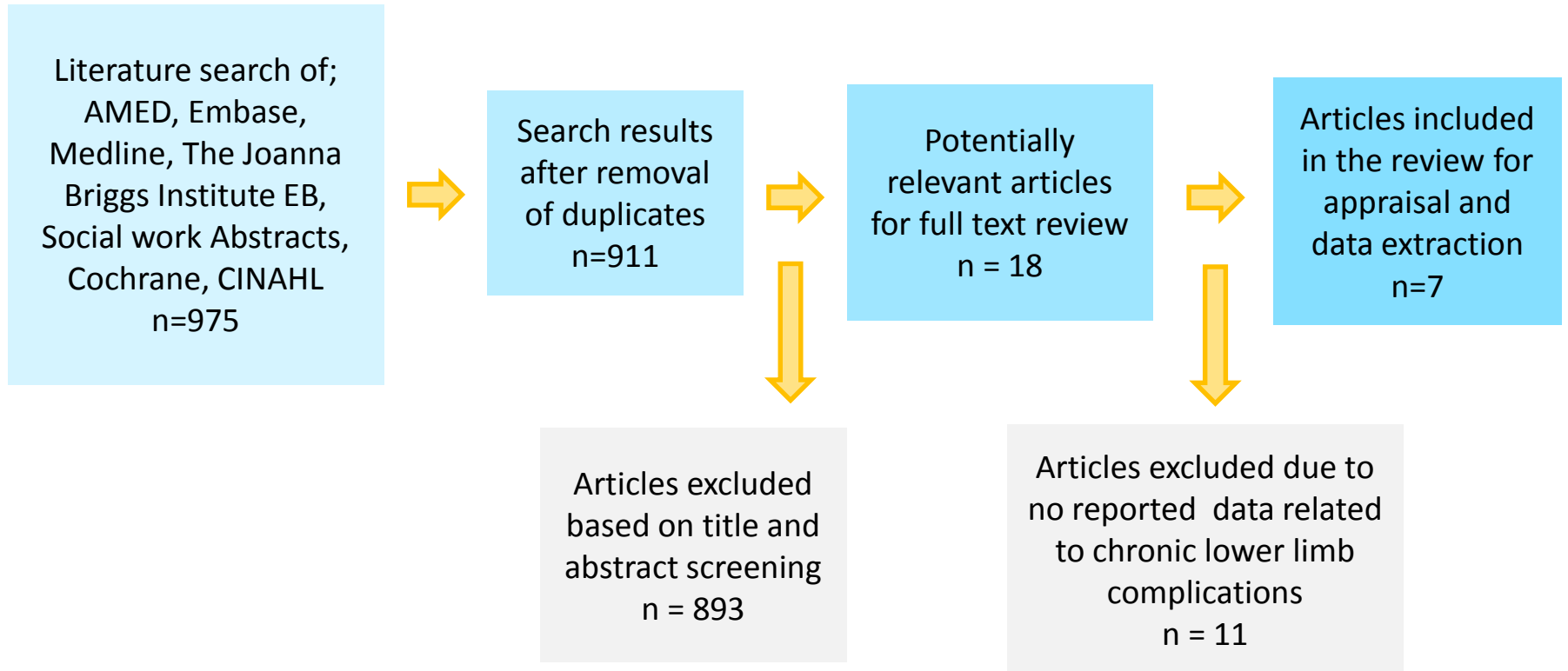
Projects

1. To investigate the prevalence of chronic lower limb complications in Indigenous people in Australian
2. To audit data within the CCLHD to determine the utilisation of foot health service by Indigenous community members

Project one: Systematic review

- Prevalence of chronic lower limb complications in Indigenous people in Australian

Search strategy



Included studies

- Fives studies published across seven papers
 - Four audits of previously collected hospital data sets
 - One series of cross sectional studies
- Western Australia, Northern Territory and Queensland
- Only one urban study

Overall findings

- Indigenous people tended to experience more chronic lower limb complications at a younger age than non-Indigenous people
- In the geographical regions studied, Indigenous people commonly accounted for the majority of complications despite comprising a relatively small proportion of the population.

Notable findings

- Amputation
- Foot complications caused by diabetes
- Ulceration



Amputation

Norman PE, Schoen DE, Gurr JM, Kolybaba ML. High rates of amputation among Indigenous people in Western Australia. *Medical Journal of Australia*. 2010;192(7):421

- Audit of amputations due to arterial disease or diabetes in Western Australia for 2000–2008
- Among people 25 to 49 years of age with diabetes, below or above knee amputations were 38 times more likely and toe or foot amputations 27 times more likely in Indigenous people than non-Indigenous people

Amputation

O'Rourke S, Steffen C, Raulli A, Tulip F. Diabetic major amputation in Far North Queensland 1998-2008: what is the Gap for Indigenous patients? *The Australian journal of rural health*. 2013;21(5):268-73.

- Major amputations with diabetes at Cairns Base Hospital
- Between 1998 and 2008, 143 major diabetic amputations were performed, 74 for Indigenous people and 69 for non-indigenous people
- At this time, Indigenous residents comprised 9.6% of the regional population
- The mean age at the time of amputation was 56.3 years for indigenous people, 14 years younger than that for non- indigenous people

Cause of amputation	IA	Non-IA
Ischaemia	35	48
Sepsis	35	15
Pressure ulcer	3	3

Foot complications in diabetes

Ewald D, Patel M, Hall G. Hospital separations indicate increasing need for prevention of diabetic foot complications in central Australia. *Australian Journal of Rural Health*. 2001;9(6):275-9.

- Audit of diabetic foot complications from the two hospitals at Alice Springs and Tennant Creek from 1992 to 1997
- At the time, IA made up approximately 38% of the regional population and accounted for 89% of the individuals with foot complications

Foot complications in diabetes

Steffen C, O'Rourke S. Surgical management of diabetic foot complications: The Far North Queensland profile. *Australian and New Zealand Journal of Surgery*. 1998;68(4):258-60.

- Audit of 51 patients who were admitted to Cairns base hospital from 1992 to 1994 with diabetic foot complications and required surgical intervention
- At the time, IA were estimated to make up 13% regional population and accounted for 57% of audit cases.
- Average ages of both the Aboriginal and Torres Strait Islander groups were 56.5 years, 9.5 years younger than the Caucasian group

Ulceration

Davis TME, McAullay D, Davis WA, Bruce DG. Characteristics and outcome of type 2 diabetes in urban Aboriginal people: the Fremantle Diabetes Study. *Internal Medicine Journal*. 2007;37(1):59-63.

- Compared data from the Fremantle Diabetes Study
- At baseline, at least one foot ulcer was identified in 5.6% of Indigenous participants and 1.2% of Anglo-Celt participants



Conclusions

- A large difference exists in prevalence of chronic lower limb complications in IA and non-IA
- In the regions studied, IA experienced substantially more chronic lower limb problems at a younger age than non-IA and underwent more amputations

Gaps in the research

- No data are available for cellulitis, Charcot neuroarthropathy, necrosis, and wound infection
- No data are available for New South Wales, Victoria, Australian Capital Territory or Tasmania
- As no study was a cohort study so it was not possible to identify risk factors for IA developing chronic lower limb complications

Implications

- Currently, the median age of IA in Australia is 21.8 years, compared to 37.6 years for non-IA
- Given the current data, we should expect an increase in the number of Indigenous Australians presenting with chronic lower limb problems
- As called for by the The Close the Gap Progress and Priorities Report of 2015, a much greater focus on access to appropriate primary health care services is required to improve health and life expectancy for IA

Project two: Objective

- To audit the data within the CCLHD to determine the utilisation of foot health service by the ATSI population

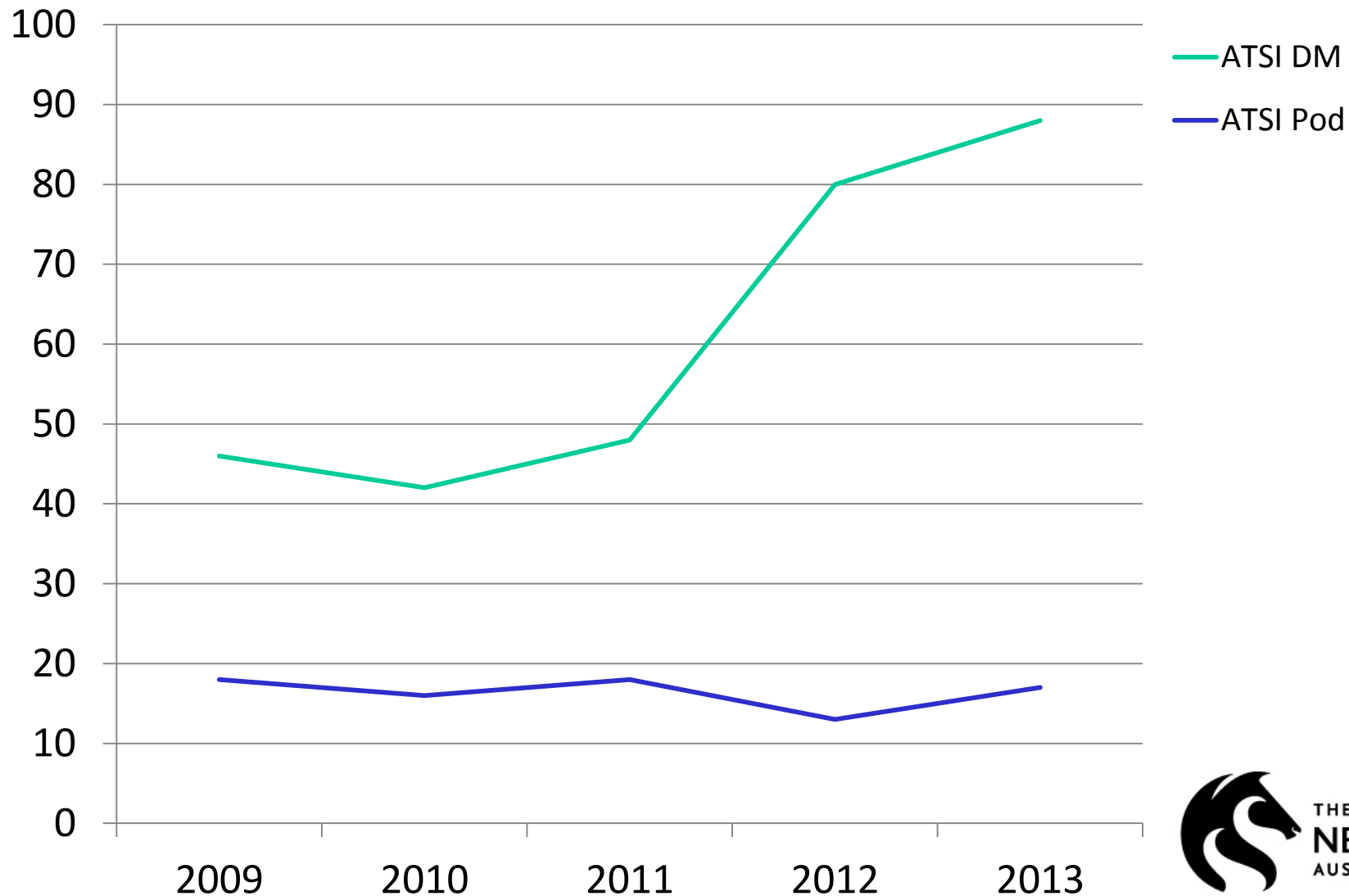
Methods

- Ethical approval was obtained
- Data was requested
- Data was obtained
- Data was reviewed and interpreted
- Conclusions were drawn

Number of individuals in Service

Year		2009	2010	2011	2012	2013
Diab	ATSI	46	42	48	80	88
	non-ATSI	1305	1314	1392	1472	1713
Pod	ATSI	18	16	18	13	17
	non-ATSI	1053	1003	951	863	830

Number of ATSI individuals participating in each service



Number of Occasions of Service

		2009	2010	2011	2012	2013
DM	ATSI	113	182	196	385	488
	Non-ATSI	3707	4290	4730	5573	7686
Pod	ATSI	115	114	117	117	126
	Non-ATSI	4133	4373	4015	4140	4054

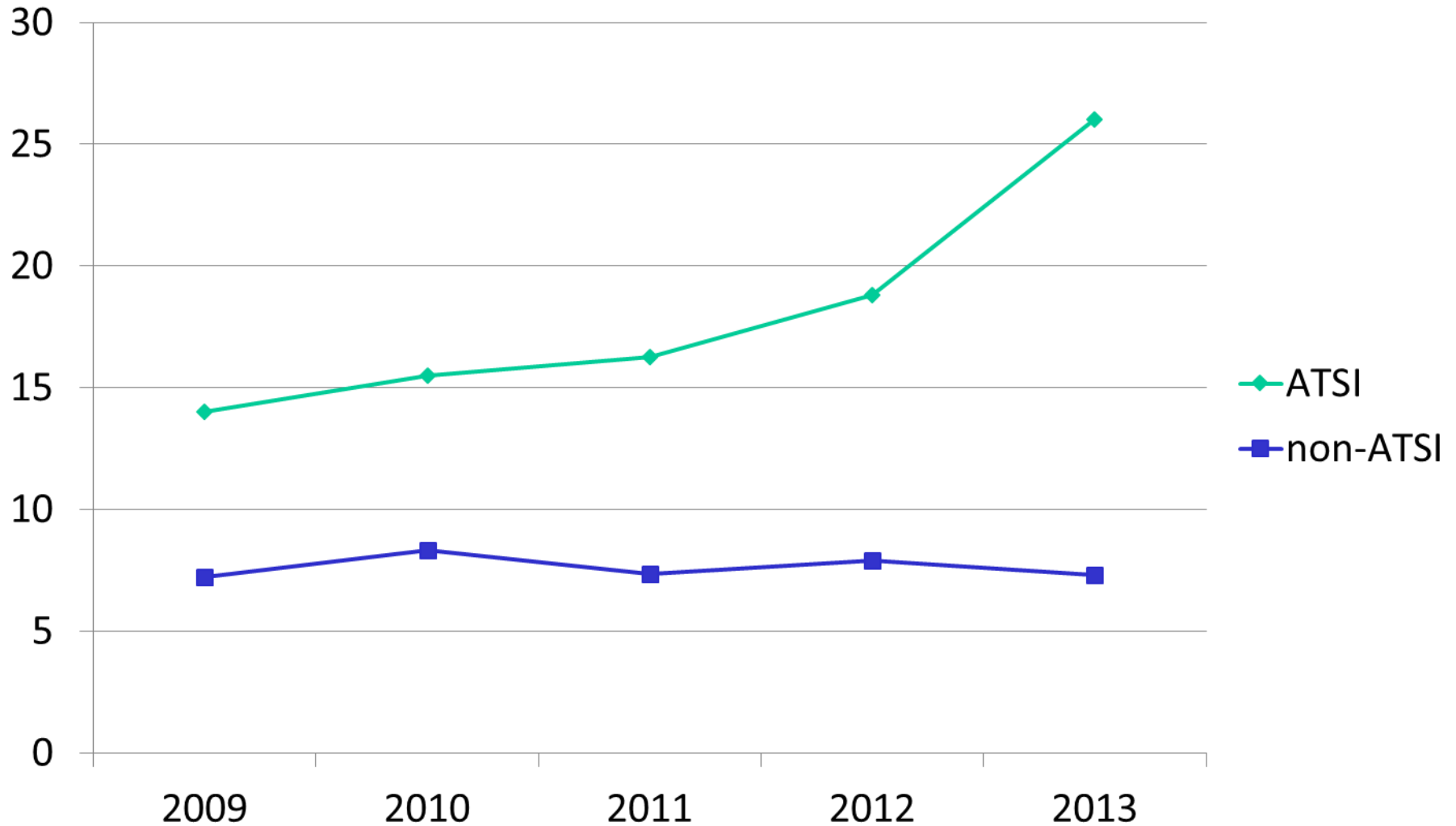
Description of podiatry services accessed

Service Category	ATSI	Non-ATSI	Unknown	Total
Biomechanical assessment	1	34	0	35
Case management	0	7	2	9
Charcot assessment	0	61	11	72
Correspondence	4	118	12	134
Did Not Attend clinic	48	1780	285	2113
Emergency treatment	1	45	13	59
General treatment other	89	5659	1218	6966
Oedema	0	3	2	5
Other assessments	0	6	1	7
Nail surgery		4	1	5
Neurovascular screening	90	4445	1354	5889
Orthotic therapy	2	72	1	75
Other	18	866	180	1064
Wound care	336	7609	577	8522
X ray	0	6	1	7
Total	589	20715	3658	24962

Number of people attending wound appointments within podiatry and average number of appointments per person per year

	ATSI				Non-ATSI			
Year	n	mean	SD	range	n	mean	SD	range
2009	18	14	6.56	8	1053	7.2	1.41	34
2010	16	15.5	5.68	22	1003	8.34	4.95	39
2011	18	16.25	5.09	23	951	7.35	6.67	29
2012	13	18.8	4.23	23	863	7.9	7.52	35
2013	17	26	1.41	44	830	7.3	3.65	34

Mean number of wound appointments per person accessing wound service per year



Discussion

- ATSI participation volume
- Instance of OOS remain similar
- Average attendance for wound appointment

Limitations

- ATSI status reporting
- Design of system which was audited
- Relevant treatment existing outside of audited services
- Access to private services
- Small sample of ATSI participants

Future research

- Access of private podiatry services
- Risk factors for increased prevalence of Lower limb Amputation
- Obstacles which exist to accessing services earlier
- Cause of increased instance of wound services

Conclusion

It is clear from this audit a health gap between ATSI and non-ATSI individuals exists in CCLHD podiatry program, and alternative models of care should be considered.



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