



Understanding the access and inclusion experiences of deaf, deafblind and hard of hearing people who use Auslan: a review of the Australian research literature

Desktop Review

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February 2024

About Deaf Australia

Deaf Australia acknowledges the Traditional Owners and Custodians of the lands on which we work and pay our respects to Indigenous Elders past and present. Sovereignty has never been ceded. It always was and always will be, Aboriginal land.

We recognise the past atrocities against Aboriginal and Torres Strait Islander peoples of this land and that Australia was founded on the genocide and dispossession of First Nations people. We acknowledge that colonial structures and policies remain in place today and recognise the ongoing struggles of First Nations people in dismantling those structures, especially Deaf, Deafblind and hard of hearing First Nations peoples.

We also acknowledge and respect the members of the Deaf Community in Australia, who preserve our rich heritage, culture, and language Auslan. We acknowledge our Auslan teachers and educators, who work to promote awareness and equality for deaf signing peoples, and access through our sign language.

Deaf Australia was founded in 1986 as a not-for-profit organisation that represents all Deaf, Deafblind, and hard of hearing people, and others who are fluent and knowledgeable about Auslan. We aspire to achieve equity for Deaf people across all areas of life. The focus has and continues to be on developing access to information and accessible communication. We work with Australian governments and collaborate with key stakeholders to make sure that Australia complies with the United Nations Convention on the Rights of Persons with Disabilities. The UN Convention and the National Disability Strategy guides our work.

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1. INTRODUCTION

Almost a century after deaf people's first concerted efforts at self-determination in Australia, our access and inclusion landscape has changed again (Carty, 2018). Since the introduction of the National Disability Insurance Scheme (NDIS) in 2013, social equity has improved for deaf and disabled Australians. However, many barriers to access and inclusion within public and private life remain. These result from the persistently oppressive foundations of racism and eugenics upon which our systems are built, which have contributed to complex social and economic disadvantages for generations of deaf signing people. We have not yet achieved collective liberation from these struggles. We are missing sensitive, person-centred understandings of the access and inclusion experiences of many deaf people who use Auslan, including deaf First Nations¹ people, deaf people from other culturally and linguistically diverse backgrounds, deafblind, deaf disabled, deaf neurodivergent, and many other minoritised deaf signers.² This affects our ability to accurately summarise the issues at a systemic level and advocate more effectively. It also means our understanding of the resourceful and

1 We mostly use the term 'First Nations' to refer to the Indigenous peoples of Australia. We use the terms 'non-Indigenous', 'settler' and/or 'migrant' to refer to people who do not share this ancestry. Where First Nations individuals and languages are mentioned, we refer to their specific and preferred culturally identifying terms, e.g., Aboriginal, Torres Strait Islander, Deaf Indigenous, Indigenous Sign Language. See <https://aiatsis.gov.au/explore/australias-first-peoples>

2 While the uppercase convention 'Deaf' is often used to refer to people who are culturally deaf signers, it is not used by everyone. There are diverging opinions and experiences within and across Australian deaf communities that must be acknowledged. For this reason, we do not assume here that every deaf person who uses Auslan refers to themselves using this uppercase convention, and have refrained from doing so here unless it is known. By applying the lowercase convention for general references, we instead strive to acknowledge these different experiences and re-orient our focus instead to language use: we are primarily interested in people in Australia who are not hearing and who use Auslan. This includes any and all d/Deaf, d/Deafblind, d/Deaf disabled and hard of hearing people who use Auslan.

creative strategies developed by deaf signing people on-the-ground in everyday life remains trapped in local ecologies of self-knowledge, rather than shared and implemented across the nation.

It is important to understand these different experiences at both individual and collective levels. In 2022, Deaf Australia received an Information Linkages and Capacity Building (ILC) grant from the Australian Government to build resources that improve deaf people's choices in relation to education, employment, healthcare and language policy. We conducted two research projects: (1) qualitative interviews with many different deaf, deafblind and hard of hearing Auslan signers on their access and inclusion experiences; and (2) development of the Deaf Census, a 30-minute online survey in Auslan and written English launched during the 2022 National Week of Deaf People for anyone aged 13 years or older who uses Auslan. From this work, we have prepared three documents: (i) a desktop review of the literature relating to education, employment, healthcare, and language policy for deaf, deafblind and hard of hearing Auslan signers; (ii) a quantitative analysis of innovative Deaf Census data collected via an online survey; and (iii) a qualitative analysis of interviews with approximately 30 deaf and deafblind Auslan signers, including people who have been marginalised even within deaf communities.

These three documents work to clarify the persistent issues and knowledge gaps about access and inclusion for Auslan signers, while revealing the many creative and resilient solutions that signing deaf, deafblind and hard of hearing people have developed in their everyday lives. Our findings are based on empirical research and the co-production of knowledge between deaf, deafblind, and hard of hearing signers in Australia. By reconciling quantitative data with the qualitatively lived experiences of deaf signing people, we aim to illuminate a more progressive path forward in the pursuit of self-determination for all deaf signing peoples in Australia. We begin with this desktop review of the literature relating to education, employment, healthcare, and language policy for deaf, deafblind and hard of hearing Auslan signers.

2. BACKGROUND

During the 1920s and 1930s, the Australian settler Deaf community experienced a rare period of advancement for some groups of deaf signing people (Carty, 2018; see also Adam, 2019; Snoddon, 2019). This was a time where significant gains were made by deaf people to articulate and work towards self-determination. It was characterised by strong deaf and hearing people who pushed back against the paternalistic charity model of deaf community organisation that was introduced through British colonial practices. For example, deaf people working as 'collectors' distributing deaf Society and mission newsletters were able to find isolated deaf children and direct them to the nearest school for deaf children where they could be educated in signed language. Unfortunately, these gains were temporary and disappeared during the wartime and postwar period. Progressive deaf-led organisations such as the Australian Association for the Advancement of Deaf people (AAAD) ceased to exist, along with their reasonable demands that deaf people be allowed to join the board of organisations and be represented at management level. This led to a fifty year period where there was little or no effective deaf representation in any of the key state deaf societies.

The historical trajectory of deaf signing people in Australia has since been shaped by decades of an entrenched culture of paternalism and exclusion at state deaf society level, whereby hearing board members, usually hearing businessmen and hearing teachers of the deaf, have not believed that deaf people were capable of "managing their own affairs" (Carty, 2018). For example, there were board members who never employed deaf people in their own businesses, and excluded deaf people from attending deaf society fundraising events. These board members feared the collective agency of deaf communities: what could deaf people achieve if we were able to work together for our own interests? Deaf people who displayed signs of leadership, such as James Johnston, were co-opted

by deaf societies, and outspoken critics such as John Patrick Bourke were ostracised from deaf society activities.

At the same time, some hearing fluent signers, who were knowledgeable about deaf people and could develop a kind of personality cult, used their position to influence both deaf and hearing people and sow division. Ernest Abraham is an example of such a person: he could decide who would receive Depression-era sustenance funds, and he had editorial control over newsletters, so that dissenting deaf people had to publish their work in deaf newsletters interstate. As Carty notes, “It is possible to use language skill (especially minority language skill) as a way of infiltrating communities, accessing private information, and making those who use the language feel exposed and vulnerable. Such privileged knowledge can, in the wrong hands, become a tool of oppression, a weapon — and Abraham provides a good case study of this process” (Carty, 2018: 110-111). These issues have undoubtedly affected First Nations and culturally and linguistically diverse deaf communities in Australia too, in far more pervasive ways that remain largely undocumented and not yet well understood.

The charity model of service provision has persisted throughout the twentieth century, under the shadow of oralism as the only method for educating deaf children, and in the context of racism and other systemic oppressions that characterise modern Australia. It is a hegemony that positions hearing, sighted, abled people of British and Irish ancestry as the supreme standard to which deaf signing people should strive. The eventual result is that white, sighted, abled deaf people are now more likely to reach this standard, while deaf people who are racially minoritised, deafblind and/or multiply disabled continue to experience compounded oppressions within a system that inhibits diversity and strangles collective advancement. This is the model which has endured in the lives of deaf people across generations. It is borne out in many domains of life. For example, a recent review of twenty years of research into Auslan observed that while there have been significant gains made regarding Auslan language description, interpreting and linguistics, it is also clear that much of this has focussed on non-Indigenous deaf people who learned Auslan from birth or early childhood, and the professional development of white, hearing Auslan/English interpreters and other hearing professionals (see Green, Hodge & Kelly, 2022). While some signers included in this Auslan research are First Nations or from other racially minoritised backgrounds, their ethnicities and cultural norms were not addressed or centred in this work. Other non-native signing demographics, such as deaf people from non-signing hearing families, have also been underrepresented.

These historical facts and observations can be contextualised in relation to the more recent development of NDIS: how it is changing the disability sector, including the shaping or unravelling of opportunities for choice and self-determination. Backhouse (2017) compared the roll-out of the NDIS to comparable schemes in the UK, as both places are driven by neoliberal approaches to social inclusion. She identified six key barriers to the personalisation of the NDIS to specific individuals, and hence our ability to truly choose. These are: (1) a lack of a well-supported, skilled, and well-trained workforce that can meet quickly increasing demand; (2) increasing reliance on informal or unpaid support such as family members; (3) organisational and bureaucratic barriers that inhibit flexibility, choice, and control; (4) inflexible service provision coupled with paternalistic attitudes; (5) ongoing disability discrimination and barriers to public services, including travel and transport, education, and regional services; and (6) lack of capacity-building through accessible information, advice, guidance and advocacy, which disproportionately affects racially minoritised and other minoritised people. We are seeing these same issues mirrored across deaf communities, such as in the concerning trend for NDIS Planners to reject or cut funding for Auslan tutoring and Auslan interpreters for families with deaf children (see Deaf Australia, 2022, 2023).

In this desktop review, we summarise four domains of the research literature relating to Auslan, with the aim of identifying knowledge gaps within this literature and mechanisms for change. Over 190 research items were identified (see Hodge, 2023).³ The following sections summarise and synthesise the published research relating to education, employment, healthcare, and language policy for deaf signing people in Australia. The scope is limited to research done in Australia and about Auslan and Australian contexts specifically. Relevant publications were identified through rigorous search of citation databases online, using combinations of search terms such as *Auslan*, *Australian Sign Language*, *deaf*, *deafblind*, *deaf disabled*, *education*, *health*, *employment*, *language policy*, and so on. The aim of this desktop review was to identify what has been achieved so far, and what needs to be done. It also sets the stage for identifying existing and new practical solutions and mechanisms for change that will work for all deaf signing people, and not just some.

3 The full list of citations is available in an online reference library that can be continually updated as a community resource: [DOI 10.17605/OSF.IO/2BZK7](https://doi.org/10.17605/OSF.IO/2BZK7).

3. UNDERSTANDING DEAFNESS AND SIGNED LANGUAGE USE AS AN INTERSECTIONAL EXPERIENCE

One reason that we are missing so many valued and valuable perspectives is because many people have been denied opportunities to identify, define and describe events and experiences on their own terms. There is a fundamental need to recognise that deafness and language use is an intersectional experience, resulting in different outcomes for different people in different places (see Kusters, De Meulder, O'Brien, 2017; Kusters, Green, Moriarty, Snoddon, 2020, *inter alia*). For example, there are very few academic publications by First Nations deaf signers, and only three publications authored by a Deaf First Nations researcher centering the views and experiences of deaf First Nations people who use Auslan and other signed languages (Saxton-Barney, 2010; Adams & Crowe, 2019; Barney, 2023). This is due to entrenched systemic discriminations and the barriers to deaf First Nations people leading or participating in academic and/or community-based research.

Most of the academic literature has been reported by people who are not deaf and usually not Indigenous themselves. While this literature sometimes includes personal communications or extracts from personal interviews with deaf First Nations people, these interviews are typically contextualised within settler histories and perspectives. The reader is not usually given any context about the positionalities and pre-existing relationships between the researcher and the First Nations people being interviewed, about how the interview was conducted, including what questions were asked, what questions were answered, and what was left out of the subsequent analysis. A similar issue applies to research involving deaf people from culturally and linguistically diverse backgrounds, whereby hearing people from these backgrounds and Australian professionals have been consulted, but not deaf children themselves (e.g., Willoughby, 2009; 2012; 2015). This is not to dismiss the work that has been done; it is more to recognise the limits to these approaches and to continue seeking further understanding, especially by centering the people being discussed.

Some scholars, including First Nations scholars, have also proposed controversial ideas, such as drawing analogies between colonialism experienced by First Nations peoples and the audism experienced by deaf signing peoples (e.g., Bone, Wilkinson, Ferndale, Adams, 2021). This was done in response to the need for human rights recognition for both signing deaf people and First Nations deaf and non-deaf people. Yet it is also dangerous to co-opt the liberation struggles of one demographic into the struggles of another, not least because it renders invisible the experiences of deaf First Nations people and deaf people from other ethnic minority backgrounds, such as deaf migrants, refugees and many others. It manifests in a lack of recognition, for example, that to be a deaf Aboriginal person is to live at the intersection of many compounded oppressions, some of which are shared by deaf people who are not Aboriginal, and others that are unique to First Nations people who have suffered under British colonisation. This includes experiences of being denied access to learning heritage spoken or signed languages in childhood, and being subject to harmful attitudes and behaviours from non-Indigenous educators and interpreters, among others.

Some of these experiences overlap with those of deaf people from other culturally and linguistically diverse backgrounds. Wehbe (2019) explored intersectionality in the Australian Deaf community by investigating the identity and experiences of women with hearing loss who come from an Australian, Lebanese-Muslim family background. As a deaf Australian Lebanese Muslim woman herself, Wehbe was interested in cultural understandings of hearing loss and language use by Lebanese-Muslim deaf women in Sydney. She used auto-ethnography and interviews to identify themes that are reflective of these women's experiences, particularly in relation to hearing loss, race and gender. Wehbe found that most of the women in her study identified themselves as either 'Hearing Impaired' or 'Deaf'. The majority posited their Muslim identity as central to their experiences, second to their hearing loss identity. In particular, the women explained that their hearing loss identity became stronger when they experienced barriers to communication, especially lack of access to signed language and cochlear implants or hearing aids. Related to this was an apparent lack of understanding and feelings of isolation within the family environment, which is particularly harmful to deaf Lebanese people as family relations are paramount to any other social relations. Wehbe also identified ways that the women developed resilience and confidence, such as through signed language and also reclaiming Arabic words to articulate their specific experiences, even if they were not fluent in writing or speaking Arabic themselves. Her study demonstrates the extraordinary value of respecting both the differences and commonalities between deaf signing people.

Much knowledge of deaf people's multidimensional experiences remains contained to local community discourses and emerging art and cultural resources. For example, a recent art exhibition *What I Wish I'd Told You*, developed by Deaf artist Chelle Destefano and hearing Grandchild Of Deaf Adults (GoDA) Claire Bridge, featured filmed contributions from several Deaf Aboriginal people as well as Deaf people from many different ethnic backgrounds including Lebanese, Lithuanian and Vietnamese (Destefano & Bridge, 2022). A central message in this collection was that the Deaf storytellers' Aboriginality and other cultural heritages are not faithfully or holistically recognised or respected in either mainstream society or within the broader Deaf community in which settler Deaf people dominate (see also Hodge, 2022). These stories all point to the need for audism to be recognised as separate to racism and xenophobia, in terms of how they are experienced by individuals with specific identities, power differences, and life circumstances (see Backhouse, 2017; Friedner & Block, 2017; Avery, 2018a; 2018b). This need also applies to experiences of being deaf and neurodivergent, or deaf and disabled. The ways in which the effects of colonialism, racism and eugenics overlap for different deaf, deafblind and hard of hearing people are complex and interconnected. It is therefore crucial to understand the complex lives and agencies of different deaf people in terms of their individual experiences, and only then carefully draw conclusions about how these play out collectively and/or at a systemic level.

4. FIRST NATIONS DEAF SIGNERS

Several publications have made observations or investigations on the use of signed languages by First Nations deaf people. In some remote communities in Northern Australia, Indigenous signed languages such as Yolŋu Sign Language are used by both deaf and hearing people (see Maypilama & Adone, 2013; Bauer, 2014; Adone & Maypilama, 2015; James, Adone & Maypilama, 2020). In Far North Queensland (FNQ), Deaf Indigenous people have been documented as using a signed language called Ailan (Aboriginal Torres Strait Islander Sign Language; see Power, 2013; Jackson, 2015). Ailan is described as a mixture of Auslan, Australasian Signed English, and Aboriginal signed languages as learned in home communities from the Australian mainland and across the Torres Strait. Deaf Indigenous people in FNQ are described as being very comfortable when communicating in Ailan, which enables them to also communicate with hearing Aboriginal people in cultural contexts.

A deaf woman named Irene Kindau shared her perspective on Ailan in Power (2013): *We have our own language in Injinoo [a town on northwestern Cape York], and everybody understands each other well. I can talk to anybody, and they know exactly what I mean. I didn't find it difficult communicating with them since I grew up hand signing. . . . In Injinoo everybody uses hand signing all the time. It wasn't so different communicating with them [signing deaf people], although they went to school to learn signing. I felt comfortable, a little bit different perhaps, but I understood everything. It was just normal. We use hand signing every day, every minute. We don't even have to talk, just use signing or body language. It's normal for everybody. Even my little brother does it. (Irene Kindau Salee, pers. comm.)*

It is not clear how or to what extent Ailan differs linguistically from Auslan, or how the text was translated in Power (2013). What is clear is the emotional resonance and comprehensibility the language has for deaf Indigenous people in this region. Ailan is valued because it reflects the cultural

norms of Indigenous communities in FNQ, as opposed to the norms of the settler Auslan signers that deaf First Nations people met at school.

Jackson (2015) describes Deaf Indigenous people in Far North Queensland as politically active, with strong social justice values and community engagement. For example, the Deaf Indigenous Dance Group (DIDG) was formed in 1997 and is very active in the region, performing at the Laura Quinkan Dance Festival in Cape York in 2021 for the first time and every year since (see [Kenton & Davey, 2022](#); [Thurgood, 2023](#)). Some Deaf Indigenous people are employed with Education Queensland as Auslan Language Models, with the aim of modelling their signed language to young deaf Indigenous children and creating bridges between the school and the children's home communities. Jackson also includes excerpts from interviews with several Deaf Indigenous people in the region, where they express their positive feelings towards what they refer to as Indigenous Sign Language (not Ailan), including how it has enabled communication with Elders who are not deaf but who use signed language, and often in relation to negative feelings about learning and using Australasian Signed English in the settler schools for deaf children.

In other parts of Australia, more mixed practices have been described. Kendon (2015) provides useful background reading on the Aboriginal signed languages of Australia, in terms of where and why they are used, and also offers some comparison with deaf community signed languages. Kendon takes the cautious position that Aboriginal signed languages are not widely used by isolated deaf people in Aboriginal communities, at least not in the same way as contexts such as Martha's Vineyard and other similar deaf communities described in the US and elsewhere. Instead, Kendon suggests that individual deaf people tend to develop their own home signing systems, rather than using exactly the signed languages of the hearing people around them (see also Kendon, 1988). This is based on interactions that Kendon described between himself and deaf people that he met, who seemed to sign quite differently to how other local hearing people signed, especially with respect to the use of facial expressions, which are described as not characteristic of the signing used by hearing Aboriginal people in the North Central Desert region.

In Kalkaringi in the Victoria River region of Northern Australia, deaf Aboriginal people have been described as using different semiotic resources that are recruited if and when they suit the purpose. For example, a version of the Auslan fingerspelling alphabet is now used widely, after it was learned from the pages of a telephone directory by hearing mothers wanting to support their deaf children in the local schools (see [Green, Hodge & Kelly, 2022: 37](#)). This positive and respectful attitude towards signing is reflected across the country wherever sign is used by First Nations people and communities.

This does not necessarily mean that there are strong relations between Indigenous deaf signing people and non-Indigenous deaf people, especially in urban centres such as Cairns or Brisbane. There are also records of Indigenous deaf people who attended a residential deaf school in their early childhood, for example, but who later returned home with no further contact with urban deaf people or communities. Power (2013) refers to historical observations suggesting that deaf people in First Nations communities were isolated by communication discrimination as much as deaf people anywhere. The prevailing oral-only method of communication has also harmed significant numbers of First Nations deaf children in racialised ways. Merv Hyde, a hearing non-Indigenous researcher, has described how many deaf Aboriginal students during the 1950s and 1960s were disconnected from their home communities and schooled at the residential deaf school in Brisbane: *"These kids were isolated because of their deafness from the mainstream of their cultures...and also from proficient communities of deaf signers [i.e., Auslan users]. So I would suspect many had even less access than their hearing peers to Aboriginal sign systems"* (see Power, 2013). Such experiences are also mentioned in Fayd'Herbe and Teuma's (2010) report on interpreting in judicial proceedings in North Queensland.

Some first-hand negative experiences of deaf Aboriginal people have been documented. Power (2013) described the school experiences narrated to him by Patty Morris, a deaf Aboriginal caseworker for Deaf Services Queensland: *"When I first came here for preschool...it was a big culture shock because I was the only Aboriginal kid among many white kids. It was very strange and confusing. I used to say, 'Why am I here? Why am I here?' The teacher tried to teach me [with] lipreading and Signed English (an outdated form of sign language). When I became an adult, I rediscovered my family up in Cape York. I realised that I was ashamed...because I couldn't communicate with my family [and] because I had gone and learned this Signed English in Cairns. But then someone signed to me in Aboriginal sign language. It was my grandfather, who was a medicine man. He had done some signing, and he asked me to go on a cultural journey with him, and he taught me about my culture going back through the generations."*

This story speaks to the many different experiences of First Nations deaf people. Saxton-Barney (2010), herself a Deaf Birri-Gubba and Urangan woman and language consultant, explains that some First Nations deaf people in local communities are highly respected and treated on equal footing to their hearing peers, while others are open to financial or sexual exploitation. For example, some First Nations deaf people are the target of 'scapegoating' in their communities, where they are left with stolen goods after being deceived into looking after them, or are otherwise made to take the blame for other people's mistakes. In these circumstances, their vulnerabilities are due to lifetimes of being denied basic communication access, including through childhood language deprivation, in addition to interactions with racist and oppressive institutional systems. It results in situations where First Nations deaf people are not supported to be understood by others, and to understand other people in turn. Saxton-Barney (2010) emphasises the importance of Aboriginal deaf people in maintaining close cultural ties to community and family, which includes being able to learn and maintain their local signed languages. Both Auslan and local Indigenous signed languages are essential for First Nations deaf children.

More recently, Adams & Crowe (2019) considered the effects of colonisation and audism on the lives of First Nations deaf and hard of hearing children, explaining how they may experience a form of 'racial audism', which refers to a 'double disadvantage' of being both deaf and Indigenous. Adams himself is a deaf Koori man from NSW. For example, the fact that First Nations deaf children are often denied access to learning their traditional spoken languages as well as being denied access to signed languages such as Auslan and Indigenous signed languages. First Nations peoples also experience much higher rates of chronic otitis media in early childhood compared to non-Indigenous people in Australia, and many spend years of their childhood and adulthood with significant to profound hearing loss and consequently social disadvantage (see Howard, 2007; Butcher, 2015; Australian Indigenous HealthInfoNet, 2019; DeLacy, Dune & Macdonald, 2020). This is vastly different compared to the non-Indigenous population, where age-related deafness in adulthood is more common. It is vital to recognise these different profiles, especially in context of the disproportionate incarceration of First Nations children and adults, and the effects of being deaf or hard of hearing in these institutionalised contexts (see Howard, 2007; Saxton-Barney, 2010; Australian Law Reform Commission, 2018). Adams & Crowe (2019) concluded that greater focus and attention to the revitalisation of Indigenous signed languages could improve wellbeing and social outcomes for First Nations deaf people (see also Butcher, 2015).

In addition to cultural activities and initiatives such as the Deaf Indigenous Dance Group, the development of sign-related resources led by and for local communities has been shown to have positive effects for both deaf and hearing First Nations people. Green, Woods & Foley (2011) described the co-development of signed language resources for communities in Central and Northern Australia. This project was initiated by hearing Aboriginal women from Arandic communities who wanted a way to revitalise and pass on their signs to the children, and has since expanded to include resources

from other communities in the region. This resulted in the popular Iltyem-iltyem website: <https://iltyemiltyem.com/>. The Iltyem-iltyem project is a good case of linguists and communities working together to co-produce knowledge and develop resources. It shows what can be done through decolonisation practices that ensure projects are driven and led by local community members in accordance with their needs and aims. Later projects in other parts of Australia have also employed decolonisation methodologies to investigate Indigenous signed languages in other regions, including the revitalisation of Yolŋu Sign Language (YSL) in Australia's remote North East Arnhem Land (see James, Adone & Maypilama, 2020). The YSL project resulted in the development of an illustrated text of YSL that is freely available to children in North East Arnhem Land via schools and learning-on-Country programs.

More recently, Barney, Devine, Howard, Huska, Yang, Disney, Summers & McAllister (2023) published their report on what helps and what hinders deaf and hard of hearing First Nations people from using their NDIS plans in a way that meets their needs and aspirations. These researchers used quantitative and qualitative methods, including yarning on Country, to determine that the NDIS is not working for deaf and hard of hearing First Nations people. They found that First Nations NDIS participants in the Northern Territory (NT) who are deaf or hard of hearing currently receive smaller NDIS budgets and make lower use of them compared to non-Indigenous or non-deaf people in the NT.

There are a number of reasons for this inequity, primarily relating to complex life trajectories shaped by systemic disadvantages stemming from the mix of colonisation and audism experienced by First Nations deaf people. This has led to an entrenched mistrust in 'whitefella' systems such as the NDIS, compounded by the fact that within the NDIS, there is limited understanding of engagement of the needs and aspirations of First Nations deaf people. Common experiences include First Nations deaf people being told what they need, rather than asked. The resulting NDIS Plans then are not used by participants, because they were prevented from voicing their needs and aspirations. Use of NDIS plans is also undermined by the limited availability of culturally safe and responsive services and supports in each area; by pressures to move off Country to access these services and supports; and by culturally unsafe service provisions that are harmful and distressing to participants. Emotional distress symptoms are often misinterpreted by non-Indigenous service providers, leading to further restriction and harm.

Barney and her colleagues concluded that NDIS service provision can be improved by instigating 'Proper way' cultural practices that align with the values and norms shared by First Nations communities in the NT. Until the NDIS works with local communities to develop self-determined methods for improving outcomes for deaf and hard of hearing First Nations NDIS participants, they will continue to fall short. The researchers offer eight policy and practice considerations, including emphasis on the need for deaf and hard of hearing First Nations people to lead and co-design projects relating to their lives, and the need to promote locally-based and First Nations-led services and support for deaf and hard of hearing First Nations NDIS participants.

So far, this desktop review shows there is much that remains unknown about when, where, and how First Nations deaf people use signed languages. Most of the academic literature has been written by people who are not deaf and not Indigenous. Very little has been written by First Nations deaf people themselves, with publications by Jody Barney and Rodney Adams being the exceptions. The main generalisation from the literature is that different First Nations deaf people do different things in different places, and that there is currently no single scholar who is expert across all areas of deaf First Nations people's language use. This is why it is essential to focus on describing and understanding local practices as they occur on-the-ground and within specific social contexts. A key message from the existing literature is that both signed and spoken Indigenous languages are essential for First Nations

deaf children's wellbeing and connection to their communities, and for deaf First Nations people to design, lead and conduct their own research and community projects.

5. DEAFBLIND, DEAF DISABLED, AND NEURODIVERGENT DEAF SIGNERS

Several publications have made observations or investigations on experiences of deafblind signers. As deafblind people have a dual sensory disability, their needs can be quite different to a sighted deaf person or a hearing blind person (see DeafBlind Victoria, 2020; Deafblind Information Australia, 2023). As with deafness, deafblindness is also unique to individuals, with different deafblind people having different language trajectories and experiences of deafblindness during their lifetimes. For example, someone who was born sighted and deaf from birth, learning Auslan in early childhood, may change their communication preferences as they lose their sight. These preferences may be different compared to a deafblind person who has enough residual hearing to communicate via speech while using hearing aids. Deafblind people may feel strongly connected with Deaf culture and tactile Auslan, or they may feel more connected to the blind and low vision community, or both. It is vital to understand the complexity and diversity of deafblind people's culture and language preferences (Able Australia, 2011).

Able Australia⁴ is a third sector organisation that has focused on the telecommunications experiences of deafblind Australians, describing the significant barriers that deafblind people experience accessing telecommunications devices (Able Australia, 2011). In their 2011 report published prior to the roll out of the NDIS in 2013, key barriers experienced by deafblind people included: (1) lack of funding support to purchase specialised equipment or software to access devices and online services the same way as everyone else; (2) lack of training options for learning how to use telecommunications equipment, computers and the internet, and lack of skilled trainers who can deliver this training; (3) lack of funding for support staff, including interpreters, to assist deafblind people in learning how to access

⁴ Readers should be aware that many deafblind people criticise Able Australia for their extremely hearing-centric and vision-centric views, among other reasons.

telecommunications devices; and (4) lack of skilled support staff, including interpreters who can effectively work with deafblind people and their individual, often complex communication needs. Able Australia also noted that the issues detailed in the report mirror the barriers experienced by deafblind people in all other areas of their lives, including shopping, banking, housing, travel and socialising and participating in the community. Since the roll out of the NDIS from 2013, it is not yet clear if and how any of these issues have been resolved and whether the situation has improved for deafblind people with dual sensory disability.

A major consequence of the barriers described is social isolation, loneliness, boredom, frustration, frustration and unemployment. Able Australia reported that the experience of deteriorating sight or hearing also contributes to strong feelings of loss and grief, fear and worry about the future, such as what will happen to the deafblind person, where they will live and so on. This contributes to high rates of depression and anxiety in deafblind people. Deafblind people's experiences of life in group homes are often negative, as they are historically institutionalised sites of oppression, neglect and trauma exacerbated by the lack of communication and mobility. Telecommunications are especially vital for deafblind people, but these services must also be complemented by effective human support.

As Professor Satoshi Fukushima from the University of Tokyo, who is deafblind himself, is quoted as saying *"In the end, machines will not solve everything, so I think it is important that a combination of human support and technology be combined for the complete solution"* (Microsoft, n.d.1; Able Australia, 2011). Indeed, investment in the development of assistive technologies for disabled people has led to advancements in mainstream devices. For example, scanners, audio books, podcasts, vibrating phones, texting, etc, all resulted from deaf and disabled people's requests for adjustments. In this way, deafblind needs contribute to deaf gains in the wider community. There is a need to also consider the positive aspects of deafblind experiences, rather than just focusing on the negative aspects (see Clark, 2017).

Able Australia also noted that there is an increasing gap between deaf sighted community and deafblind community, where the gains and empowerment experienced by sighted deaf people are not as evident within the deafblind community. The emphasis in the technology world on single sensory disabilities does not translate into effective technology for people with two or more disabilities. For example, most deafblind people are on a disability pension, even if they also have some employment, and it is rare for deafblind people to have a full time job that is well-supported. Able Australia (2011) also pointed out that groups of people who are extremely marginalised, including deafblind Australians, do not have much influence over market forces due to their smaller numbers and highly individualised needs. This includes the market forces which the NDIS purports to support.

More recently, Roy, McVilly & Crisp (2018) and Roy (2020) investigated how to enable deafblind people to participate in research about and for them, using the World Cafe collaborative discussion methodology. They adapted a method developed by a hearing psychologist for use with deafblind people, working with eight deaf or hearing support staff who work with deafblind people to do this. Six themes were identified in their data: (1) the need to acknowledge that deafblind people have their own unique world views, and that this may be informed by lifetimes of being denied access to information, which means worldviews may be missing a lot of contextual and incidental information since it is so hard to access; (2) the need for trusting relationships and vulnerability, although this is a theme that came across from discussions with people who are not deafblind, so it is hard to assess whether there is any validity in this discussion; (3) the need for specialist expertise among people working with deafblind people, such as skills in communication and cultural sensitivity; (4) the need to return power to the people by centering them in research processes, although this project only got so far as touching on power imbalances, such as those between hearing sighted interpreters and deafblind signing people; (5) the need to recognise that the Deafblind community is a culturally and linguistically diverse community

in its own right, separate from the Deaf community though with some overlap; and (6) the need to include people who are Deafblind in policy and research development, rather than just talking to support staff who work with them.

Roy, McVilly & Crisp (2018) concluded that the lack of person-centred research led by deafblind people in Australia means that there is a lack of awareness on best practice for government and community services in engaging and co-designing services and systems with deafblind people. The authors argued it is necessary to spend time to educate and prepare deafblind people on research and consultation processes. Yet throughout these papers, deafblind people are repeatedly contextualised as existing without agency and as needing professionals to speak for them even in terms of sorting out a research methodology. No deafblind people themselves were interviewed for this study.

Other researchers have started investigating tactile Auslan practices used by deafblind signers, taking a more interactional and discourse analysis approach to analysing the linguistics and pragmatics of tactile signed language use. These studies have focussed on describing misunderstanding and repair practices in tactile interactions (Willoughby, Manns, Iwasaki & Bartlett, 2014), investigating how humour is communicated in conversations between deafblind signers (Willoughby, Manns, Iwasaki & Bartlett, 2019), and how people who are born deaf and lose their sight later in life go about adapting visual Auslan for tactile delivery and reception (Willoughby, Manns, Iwasaki & Bartlett, 2020). These researchers have also contributed an overview of tactile signed languages (Willoughby, Iwasaki, Bartlett & Manns, 2018) and addressed some methodological issues with how tactile signed interactions can be analysed (Iwasaki, Bartlett, Manns & Willoughby, 2019).

Unfortunately, there is no literature that specifically focuses on the lived experiences of deaf disabled and/or deaf neurodivergent signers in Australia, but these groups have sometimes been studied in relation to other topics such as education and employment. References to these demographics as distinct from sighted deaf people are made explicit in the sections below.

6. EDUCATION

The literature relating to education of deaf, deafblind and hard of hearing people who use Auslan is miniscule as a proportion of the global field of deaf education research. In particular, large-scale studies examining teaching practices and outcomes have been difficult to do in Australia because of small and widely-dispersed cohorts of deaf students. Much of the planning and decision-making in Australian deaf education has therefore been based on overseas research literature. However, researchers investigating Australian contexts have produced research on the politics of Auslan in deaf education, deaf literacy development, bilingualism and signed language learning opportunities for deaf children and their caregivers, educational interpreting, cochlear implants and deaf children's communication, classroom interactions, the impact of newborn hearing screening programs, theory of mind in deaf children, and attitudes towards deaf people and signed languages.

6.1 Politics of Auslan in education

Komesaroff (1998) wrote her doctoral dissertation about the politics of language practices in deaf education. It was written at a time when the national and international deaf education movements were again starting to strongly support bilingual education for deaf children, based on the view that deaf people belong to a cultural and linguistic minority. Komesaroff's study included: (1) a review of the literature relating to language practices and bilingual education; (2) interviews with teachers of the deaf and other deaf education stakeholders; and (3) case studies of three educational sites. She found that the teachers' beliefs and attitudes about language practices provide ample evidence of the competing paradigms about deaf educational pedagogy, describing deaf education as *"a system that is*

dominated by hearing educators who deny and marginalise the language and culture of the deaf [and] has constructed deaf people as disabled” (Komesaroff, 1998: xv).

Komesaroff concluded that the language policies and practices of deaf education primarily reflect the values and interests of hearing professionals, not the best interests of deaf children, and that the beliefs held by hearing professionals are not supported by science or the experiences of deaf people. She found that teachers who want to adopt new practices face extreme difficulties, and the views of deaf leaders are largely ignored. Komesaroff also discussed how the rhetoric about ‘communication methods’ essentially masks an underlying and ongoing conflict about deaf people’s right to make choices about what languages are used and when. Overall, Komesaroff’s thesis provides a detailed discussion of the political nature of education and the relationships between language and power in this field. It highlights the importance of parent education and professional development for teachers of the deaf, as well as access to fluent language models through employing deaf staff (see also Komesaroff, 2008).

Komesaroff (2000) presented a case for the linguistic rights of deaf people, including deaf children. She examined human rights and disability conventions in terms of how they can or cannot protect the linguistic rights of deaf people. She argued that disability conventions are not enough to protect linguistic rights, especially as they relate to deaf children’s right to education in an accessible signed language. Komesaroff concluded that the linguistic rights of deaf people in Australia are being systematically breached by educational policies and practices that deny people access to their language or otherwise marginalise them.

Komesaroff (2001) described a case study of an Australian deaf facility and its changes in language policy. This was one of the schools included as a case study in her dissertation (Komesaroff, 1998). It documented the process of change in a school community as Komesaroff worked collaboratively with teachers and parents to investigate the place of Auslan and bilingual pedagogy in deaf education. This school included teachers who were dissatisfied with the educational outcomes and existing practices used with the deaf students at the school. Komesaroff found that any change required both teachers and parents to be on board with their support. She also identified the main barriers to change, which include teachers not having enough support or opportunities to learn Auslan proficiently; the need for a rationale for changing existing practices; and a good model for new practices. One effective way of changing teacher views is by having teachers observe a deaf teacher/researcher instructing deaf students using Auslan, and witnessing how the teacher/student interactions unfolded in real time in that programme and any others available. Finally, both teachers and parents needed to meet successful deaf adults and see their children interacting naturally with Deaf adults who are fluent signers.

Komesaroff (2004) examined how the Disability Discrimination Act (Commonwealth of Australia, 1992) has been used by parents advocating on behalf of their deaf children for signed language access in the classroom. Komesaroff reviewed a number of cases where parents claimed indirect discrimination by educational authorities and discussed their outcomes. Disturbingly, she observed several cases that reached settlement before trial, noting that this is an avoidance strategy used by educational authorities to discourage precedent and fine-tuning of the scope and mechanisms of the DDA through the courts. She concluded that the limitations of a complaints-based system to challenge systemic discrimination is best overcome by introducing legislation that can protect the language rights of deaf children.

Dickson (2005) is an account of a legal case mounted by the families of two deaf children and heard in the Federal Court of Australia. *Hurst and Devlin v Education Queensland* followed an earlier case of *Clarke v Catholic Education Office* that was successful in challenging the policies of the ACT Catholic

Education Office regarding the provision of Auslan interpreters for deaf students. The results of this case were mixed, with the judgement accepting some claims of direct and indirect discrimination, but rejecting others. For example, the judgement held that Education Queensland was not reasonable in withholding Auslan interpreters for the children, and that their Total Communication Policy was out of date. Yet the fact that one of the families had invested in private Auslan tuition out of desperation actually worked against them in their discrimination claim.

The judgement also dismissed expert evidence provided by Dr Linda Komesaroff and Veronica Pardo, because “they acted as advocates for Auslan and, in doing so, surrendered their academic detachment and objectivity.” The courts’ discomfort with their expert evidence related to general discomfort with specific organisations, e.g., Deaf Children Australia, using the courts to further a political agenda and introduce mechanisms for social change. Instead, the judgement claimed that decisions about children’s education are best made by educators, not the courts. However, as Dickson points out, this view puts “too much faith in the expertise and impartiality of educators, at the expense of the wishes and knowledge of parents and students themselves, and discounts the very real function of anti-discrimination legislation of providing a remedy when those providing services, intentionally or otherwise, impose a discriminatory regime” (Dickson, 2005: 7).

6.2 Deaf literacy development

Power & Leigh (2000) provided a historical overview of theories on deaf literacy development, summarising the main principles and practices of literacy development for deaf learners. Their starting point was to note that the history of educational initiatives in this area is deeply entwined with the harmful attitudes and ideologies that are practised on deaf children. Specifically, deficit and impairment models. They concluded there are two main theoretical camps on deaf literacy development: the top-down, whole language philosophy (e.g., Ewoldt and others) versus bottom-up approaches which focus on basic reading courses and direct teaching of skills such as phonics and so on (e.g., Dolman and others). Power and Leigh concluded that any progress in deaf literacy development needs to be based on theoretical and empirical data, rather than attitudes that teachers may have about deaf children. Unfortunately, they were pessimistic about various educators and education systems’ ability to do this.

Power, Hyde & Leigh (2008) undertook an experimental study of deaf primary and high school students’ ability to write a story in response to a wordless picture sequence. The aim was to test if and how Australasian Signed English (ASE) may be beneficial to deaf students learning English. The researchers found that ASE can be useful for aiding written English development, both in showcasing when and how students conceptually engage with the exercise, as well as identifying when targeted support on more complex syntactic structures may be required. However, Power, Hyde & Leigh (2008) also noted these outcomes may vary depending on factors such as the teacher’s ASE skill.

Chanock, Stevens & Freeman (2010) described how they worked together to support a Deafblind student’s right to academic advancement at university. This article was co-written with the student, Deafblind woman Michelle Stevens. The aim was to document how they developed an academic learning process that supported the student to improve their academic writing. This was done by turning “writer-centred drafts into reader-centred essays” (Chanock, Stevens & Freeman, 2010: 156). They developed a method that gave the student opportunities to first discuss ideas orally and using tactile signed language, before attempting to put these into writing. This is an essential step because the student did not have opportunities to do this through peer-to-peer interactions with her fellow

students. The hearing tutor concurrently made a written record of this discussion as it happened in real time, and then emailed this record to the student within a day or two.

In the second step, the team consulted with the student on her writing, by emailing draft texts back and forth. This enabled each person to create in-line annotations that could be readily conveyed via Braille, and avoiding comment functions that step away from the text, such as Microsoft Word commenting functions. They co-developed principles for communication, such as that comments must “immediately follow the word or sentence they apply to, they must be easily recognisable, and they must be as simple as possible” (Chanock, Stevens & Freeman, 2010: 156). This was crucial for giving the student a sense of how readers responded to her writing, and enabling her to develop the skills necessary to produce reader-centred academic writing.

The outcome of this process was that the student significantly improved her grades from low passes to B grades, developed the critical thinking skills necessary to write essays, and was able to engage more deeply with her university work. She also became more confident in herself, so that she now mentors other students with disabilities. While the authors do not try to generalise this process as suitable for all students, they do point out that strategies developed by and for deafblind students may have very useful applications for other students too. This is a great example of how a strategy developed with and for deafblind people could be useful for so many others, including other deaf and hard of hearing signers. This premise was taken up further in a later study (Chanock, Stevens & Freeman, 2014) in which the authors professed a desire to move from ‘disability access services’ to ‘learning’ paradigms of equity and inclusion.

6.3 Bilingualism and Auslan learning for children and caregivers

Johnston (2004) reported an attempt to assess the signed language proficiency of deaf and hearing children in a self-described signed bilingual program in Sydney. He did this by adapting a British Sign Language (BSL) test to Auslan. Johnston found that the adapted Auslan test can measure basic Auslan skills in young children and can identify if their signing is native-like or not. However, he also identified serious issues with the original BSL tests and how their standardised norms were established, and thus how they can be applied to the Auslan cohorts. In his conclusion, Johnston emphasised that standardised tests are not enough, that a signed bilingual programme must have other features. Namely, *“a very strong and vigorous early intervention component and there must be an ongoing presence of highly proficient Auslan signing staff in the school environment...Staff must be able to present themselves as fluent and competent Auslan language models in order to reinforce this language and facilitate the introduction of the L2. Without early intervention, pupils are unlikely to attain the early native-like signing skills upon which a sign bilingual program is predicated. Without competent Auslan using staff, the ability to exploit this for second language learning may be limited”* (Johnston, 2004: 78). Johnston also pointed out issues with so-called ‘bilingual’ programs due to the high numbers of children who are late enrolments, entering the program after ‘failing’ other non-bilingual programs or suffering other adverse childhood experiences. For example, late enrolments often also include deaf students who have recently migrated to Australia as refugees or asylum seekers, and have not yet experienced any signed language immersion opportunities, either at home or school.

The only empirical research on Auslan development of deaf signing children was conducted by De Beuzeville (2004, 2006). She investigated the acquisition of depicting signs by deaf signing children and compared this with the visual drawing development of non-signing hearing children. She found that these development trajectories mirrored each other closely, lending support to the proposal that depicting signs are both partly conventional and partly gestural. Her study also identified milestones

for children's development of depiction in their use of Auslan, particularly how fluency with this strategy is cemented much later than other aspects of Auslan usage.

In response to the court case described in Dickson (2005), Hyde & Power (2007) were commissioned by the Queensland Department of Education, Training and the Arts (DETA) to report on a range of issues including: (1) what is bilingualism and how are immersion approaches to learning a second language embedded within bilingual contexts; (2) features of effective immersion programs within the context of DETA requirements; (3) the nature of signed languages including Auslan and their role in the Deaf community; (4) types and uses of signed communication in education; (5) some assumptions about the context of DETA participants including use of immersion opportunities and curriculum; (6) programs offered by Griffith University for assessing Auslan proficiency and their method of delivery; (7) recommended content of DETA programs; and (8) sources of information and resources. It seems the reason for this report was to outline possibilities for developing Auslan immersion programmes for DETA and any issues or challenges expected in delivering such a programme.

Napier, Leigh & Nann (2007) reviewed the literature and past research relating to signed language learning for parents of deaf children. They also reported findings of consultations with hearing parents in relation to such projects and provided an overview of the Auslan curriculum developed for teaching hearing parents of deaf children. Crucially, a key requirement identified was for language development programmes to include a mix of environments, such as classroom-based teaching, incidental language learning opportunities, natural signed language immersion contexts with deaf adults and children, as well as additional family-specific Auslan learning resources. This paper supports efforts to ensure early intervention programmes specifically enhance the learning opportunities for the families of deaf children as well as the deaf child.

Hyde & Punch (2011) reported a mixed-methods study, primarily surveys of 247 parents and 151 teachers and interviews with deaf children, to investigate the modes of communication used by children with cochlear implants and the role of signed communication in these children's lives. They found that approximately one third of deaf children with cochlear implants were using some form of signed communication, either Signed English or Auslan. Interviews with teachers, parents and children showed that many valued the use of these signed forms of communication, which were seen to support children's personal, social and academic development. Young deaf people who use signed language were described as switching comfortably between communication modes depending on who they were talking to, what topic, and where they were. Hyde & Punch (2011) also found that negative predictors of children's outcomes included children having additional disabilities, and children being implanted over the age of two years. Positive predictors included parental expectations of positive outcomes, parents' awareness of potential negative language-related outcomes, living in a major city area, the child having a sequential bilateral implant, and several variables related to spoken language communication. No negative predictor values for parents' use of signed communication or the use of signed communication in educational settings was identified. This study supports the value of Auslan for deaf children.

Hodge, Schembri and Rogers (2013) later adapted the British Sign Language (BST) Receptive Skills Test and Productive Skills test first piloted and used by Johnston (2004) to Auslan. They successfully produced an Auslan version of the RST and PST and verified that these tests are effective for identifying signed language delay in deaf children. However, it is not possible to use the standardised scores with deaf disabled children, because these children were excluded from the original BSL tests and therefore the standardisation methods on which the Auslan versions are built. This project also involved producing an Auslan developmental checklist, based on existing checklists in use in Victoria, and a survey of bilingual practices in four Victorian state school programmes for deaf children. The

authors found that appropriate use of the tests and checklist require extensive training and that this training is mandatory for using the tests, along with follow-up mentoring and professional development for testers. They concluded there is still an extreme need for training, specifically in signed language assessment and more generally in terms of signed language skills, for all teachers in signing programs.

6.4 Educational services and the needs of deaf migrants and refugees

Willoughby (2008) investigated the situations and needs of deaf people from migrant backgrounds living in Victoria. She used informal conversations and interviews with migrants, as well as surveys and interviews with deafness sector and migration settlement professionals to inform her findings. At the time, the project uncovered over 300 deaf adults and children from migrant backgrounds living in Victoria. They came from approximately 60 countries of origin and spoke over 50 languages. She calculated this equated to 28% of students enrolled in deaf programmes at Victorian schools having at least one parent born overseas, and 19% coming from families where a language other than English or Auslan was spoken, e.g., Arabic, Turkish, Vietnamese (Willoughby, 2008: 1).

Willoughby stated this indicates a great degree of diversity among deaf students from migrant family backgrounds, which is a challenge for deaf service providers in how ethnic-specific their services can be, such as by employing case workers who speak Arabic. Through interviews with deaf migrants in Victoria, Willoughby found that migrant families often only came into contact with deaf service providers by chance. This was due to lack of knowledge and difficulty contacting service, but also because hearing settlement workers had little knowledge of deaf-specific services. Parents of deaf children from migrant backgrounds were also more reluctant to join English-language support groups for parents of deaf children, and so missed out on opportunities to share experiences and strategies with other parents.

Willoughby (2008) discussed the barriers to education experienced by deaf adults from migrant backgrounds, who often arrived in Australia using only a home sign system as their main form of communication. These deaf people need support to learn both English and Auslan, but the system does not match their learning needs nor does it not offer the extra support they require to join existing English classes for hearing migrants or Auslan classes for deaf people. Adult deaf migrants also tend to experience a higher degree of social isolation, struggling to join groups and make friends, not being able to work or study, all of which limits opportunities for social interaction. Furthermore, even though they may have a strong interest in understanding more about their heritage, there are not many opportunities to do so in Australia. Willoughby (2008) offered recommendations for addressing these challenges, emphasising the urgency to facilitate effective systems for deaf children and adults from migrant backgrounds, especially as these communities will continue to grow.

Willoughby (2012) investigated the language choices and strategies developed by migrant background families with deaf children (see also Willoughby, 2009). She noted that choosing a communication method is even more complex for migrant background families who must negotiate not only the role that speaking English or signing Auslan will play for their child, but also which spoken language(s) will be used and when: the language of the mainstream society or their heritage language. Willoughby reviewed the literature and conducted case studies with seven migrant background families with deaf children. She found that the children who had the greatest success acquiring their heritage language were also assessed by their parents as having the best English skills in the group. As these children were successfully acquiring a first spoken language, they were also very capable of developing spoken language bilingual proficiency. On the other hand, the children with the most marked delays

in learning English also had the lowest heritage language skills. Willoughby stated these children especially would benefit from a switch to signed language, and did not appear to have benefited from their parents attempts to restrict their child's spoken language input to only one language. However, there was no discussion of the children's Auslan fluencies at any stage.

Willoughby noted that there were other factors which could influence these outcomes, including the child's type of deafness and age at cochlear implantation. Willoughby (2009) had also earlier detailed some key barriers that migrant background families face in learning Auslan. While these included personal prejudices such as negative attitudes about signed language and signing, they mainly revolved around practical constraints, such as low English proficiency (as most Auslan classes depend on already knowing English), concerns about being the only person from their ethnic community in such classes, or the lack of single-sex classes available. Overall, Willoughby (2012) showed that attempting language maintenance is positive for deaf children's family relationships, communication and participation in the ethnic community. This is an area where more research is much needed, especially as the population of deaf children from migrant family backgrounds will continue to grow.

Willoughby (2015a) considered the obstacles that migrant background families face in establishing successful communication with their deaf children. In particular, the role of professional advice in shaping their language choices. Willoughby asked: (1) what language(s) are professionals recommending families use with their deaf children; (2) to what extent do professionals take families' language ecology into account in making their recommendations; and (3) how do families deal with this advice (e.g., accept, reject, seek alternative opinions). She interviewed seven migrant-background families with a primary school-aged deaf child, noting it was difficult to recruit willing participants for this study. Willoughby identified that professionals were largely working from monolingual or bilingual mindsets, with parents of deaf children encouraged to speak only English, even when this caused a major disruption to their home language ecology.

While there were some positive cases, other cases were far more problematic with far-reaching consequences. For example, one mother interpreted the professionals' advice as being more harmful to interact with her son in Arabic than to say nothing at all. Her son consequently received limited language input and presented with language delays at 12 years of age. Willoughby concluded that there is an urgent need for more research on the practical strategies for migrant background families, so that they can maintain their heritage languages with their deaf child. She states that proficiency in written English need not be at the expense of proficiency in Auslan or spoken or written proficiency in a heritage language.

Willoughby (2015b) provided an overview of the key issues affecting deaf and hard of hearing youth from refugee backgrounds in Australia. She focused on three main areas of greatest need: (1) hearing loss detection; (2) hearing loss management; and (3) communication. Willoughby found that deaf children who arrived in Australia at school age had more difficulty finding appropriate services compared to children who arrived as very young children able to draw on early intervention programs. One issue is that deaf refugee children are not automatically subject to hearing tests as part of their settlement process. Some symptoms of mild or moderate hearing loss, such as apparent difficulty concentrating and disruptive behaviour, are also commonly attributed to survivors of trauma. There is a need for systematic hearing screening on arrival in Australia.

It is also possible that some migrant families seek to conceal hearing loss, due to social stigmas against deafness in their home countries. There is also a general fear among refugee and Australian deaf communities that people may be declined migration visas on the grounds of their deafness. Willoughby claims this was not usually the case, but that deafness combined with other disabilities

or medical conditions could be grounds for refusal. This has led to cases of deaf refugees and their families living in Australia up to 20 years but with no contact with deafness services until a hospital admission or other crisis. It is known within the Deaf community that families with deaf children are still regularly rejected by the Australian Border Force.

The service provision landscape remains challenging for migrant families to navigate. The debate about which communication method deaf children should be raised with is even more difficult in this context, with some families reporting that some options remained unknown to them for years. This is especially challenging for parents with limited English proficiency, as it is harder for them to gather information about what is best for their child. The home language ecologies of refugee families can be particularly complex, involving heritage languages and home sign systems in addition to new English or Auslan. Professionals advising these families have only monolingual or bilingual literature to draw upon, and most cochlear research is conducted in controlled monolingual environments with comparably wealthier middle class families who are more likely to be able to access these services. The evidence may be very different for multilingual families.

Willoughby (2015b) also stated it is difficult for refugee families, both adults and children, to access opportunities for learning Auslan. Most community classes rely on already knowing English, and parents often have many other competing priorities relating to settlement. Some professionals, including teachers of the deaf, advised it is not appropriate to ask parents who have recently migrated to also learn Auslan as well as English, while young Deaf case managers were more likely to emphasise this as a priority. The Adult Migrant English Program (AMEP) was useful for a while, but still focused on non-deaf refugees with no tailoring for deaf refugees. The AMEP has now been discontinued. This puts deaf migrants in a difficult position: with no pathways for learning Auslan outside the school system, there is no pathway to learn either Auslan or English and therefore communicate with people in Australia or access services (Willoughby, 2008). It seems this situation will continue in the NDIS era, as refugees are not eligible for the NDIS, although there are some very limited pathways for deaf migrants to learn Auslan and other skills via some RTOs, including deafConnectEd, TAFESA, Deaf Connect.

These studies contrast with Crowe & McLeod (2016), who investigated factors influencing professionals' guidance of parents of deaf children regarding spoken language multilingualism and spoken language choices. They surveyed sixteen professionals including teachers of the deaf, speech language pathologists, special education teachers and Auslan interpreters, all of whom had experience working with multilingual families. Professionals were asked to rate the importance of potential influences on the guidance they provided. Most reported they would sometimes or always recommend multilingualism for deaf children, while some reported they would only sometimes do this. They all placed greater importance on other factors relating to family and community relationships (e.g., family language models, communication within the family, community engagement). They rated organisational policy and deaf children's characteristics as less important. This research offers insights into the factors that professionals currently use to guide multilingual families of deaf children in their decisions about spoken language multilingualism. It is not clear why the professionals surveyed by Crowe & McLeod (2016) had such different views to those interviewed by Willoughby (2012, 2015a, 2015b). It is likely these differences relate to contrasting ideologies regarding the value of signed languages versus spoken languages amongst professionals.

Siran & Dettman (2018) reported a qualitative analysis of caregivers' perspectives on using Auslan as part of a bilingual bimodal approach with their cochlear-implemented deaf children. Written questionnaire responses from 34 caregivers who use Auslan with their child pre – and post-implantation were analysed to identify common themes. Caregivers were united in choosing

a bilingual approach for their child's current and future communication needs. All caregivers commented on the benefits of Auslan as part of a bilingual approach for their child, and their satisfaction about significant changes in their child's post-implantation communication. Other themes that were identified included: caregivers' dissatisfaction with suggestions from clinicians to prioritise speech as the main mode of communication; significant listening gains for children with additional disabilities; future expectations about Auslan and oral language development; their child's language preferences within the bilingual approach; and consequent improvements in speech production. The researchers concluded that using Auslan as part of a bilingual approach is intensely positive for deaf children and their families, and that clinicians need to be aware of caregivers' perspectives on Auslan and empathetic about the reasons for these choices. This research challenges anti-signed language ideologies and practices within the clinical sciences.

Barr, Duncan & Dally (2018) conducted a systematic review evaluating the literature on service provision to deaf and hard of hearing children living in regional, rural and remote areas of Australia. They searched five databases, the grey literature, and another 37 relevant documents. Thematic analysis of the literature confirmed that children in these areas have less access to services than those living in urban areas, including reduced quality and frequency of services. Indigenous children, migrant family children, and children from low economic backgrounds particularly suffer from lack of access to services. The researchers did not consider Auslan or signed communication at all, but their findings suggest the same barriers exist for families wishing to learn Auslan too. They also cautioned the NDIS is creating further gaps between families based in metropolitan and non-metropolitan areas, since most service provision is based in the main cities.

Baker, Miller, Fletcher, Gamin & Carty (2019) described a co-enrollment programme operating at Toowong Primary School in Brisbane since 2001. They outlined the history of the bilingual, bicultural co-enrollment programme, the key administrative components in running the programme, including programme organisation, such as the structure of classes with children of multiple ages; and demographics of students and their families, such as families from non-English speaking backgrounds who are already committed to bilingual philosophy and aware of its benefits. The authors described the staff required, minimally a qualified teacher, teacher of the deaf, and Auslan language model, and how they work together via co-teaching methods that involve providing multiple opportunities to see and hear the same learnings via direct instruction, not mediated by interpreters. The key pedagogies used to support students and key curriculum directions were also described, such as the role of each language of instruction and Auslan as a stand-alone subject. They explained how student progress is monitored, with a focus on Auslan development and English reading and writing development. Finally, the main challenges faced by the programme were described, which relate to the lack of feeder programs (e.g., bilingual kindergartens) and issues with the prevailing models of inclusion, which preference high-incidence disabilities, not deaf and hard of hearing students. The authors concluded their description of the programme with a sense of pride and note they are regularly visited by families and education professionals to see how their programme works.

6.5 Educational interpreting

Napier (2002) explored linguistic issues of Auslan interpreting in university contexts. She looked at how interpreters switch translation styles, between free and literal methods of interpretation, as a linguistic strategy for handling the sociolinguistic influences of the discourse context. Particular attention was given to interpreters' educational background, such as their familiarity with academic discourses; the linguistic features and lexical density of the text; and any possible influences on interpretation. A key finding was that interpreters tend to be dominant in either free or literal methods

of interpretation, which manifests in different strategic choices according to the demands of the interaction. While each interpreter was dominant in a particular style, their education background and other factors likely influenced when and how they switched interpreting styles at particular points. For example, interpreters were more likely to fingerspell when: (a) the source language was lexically dense; (b) they did not fully understand the source language content; and (c) when proper names for people and concepts were used. Napier proposed the concept of “translational contact” to explain this.

Napier & Barker (2004) considered how deaf students can access university education via signed language interpreting. They provide an overview of the history of deaf education in Australia, Auslan and Auslan interpreting. They also worked with a panel of deaf university students from diverse linguistic and educational backgrounds to gain insights into their perceptions of signed language interpreting in university lectures. Specifically, lectures interpreted using a predominantly free approach versus lectures interpreted using a predominantly literal approach. The researchers also considered each students’ expectations in relation to the educational backgrounds and qualifications of university interpreters, and how comprehensible they were. Napier and Barker found that the university students preferred interpreters to combine both interpreting styles, depending on what was needed in the discourse context. This skill enabled students to access subject-specific terminology and academic language in English, while also accessing the overall lecture content in Auslan. Students also advocated for interpreters to have a university qualification if they are working in that context, while asserting that interpreting still does not provide full access in educational settings.

Judd, Lewis & Bontempo (2013) explored a case study in mentoring educational interpreters. Educational interpreters do not hold an interpreting qualification and are not supported by formal mentoring, professional development opportunities or structured skills development programmes. The authors reported on a pilot mentoring programme for educational interpreters and offered recommendations for ongoing mentoring of educational interpreters.

Goswell, Carty, Napier, Leigh & Clarke (2021) investigated whether mainstreamed deaf students can access classroom interactions via educational interpreters. Their aim was to test the ‘illusion of inclusion’ in Australian contexts. They chose classroom questioning as the specific strategy to focus on, as this strategy scaffolds teacher-student interactions, which are vital to the learning process. 11 hours of data from 14 mainstreamed high school English and Maths classes was collected. The researchers conducted an in-depth analysis of four representative classes. Two classes had one deaf student, and two classes had two deaf students. All classes had at least twelve hearing students. Their main finding was that deaf students missed out on answering questions, because the questions were not interpreted effectively. They concluded this is the main barrier to deaf student participation in mainstream teacher-class interactions. The authors attributed this barrier to the interpreter’s dilemma of not having enough time to process the question and offer it to a deaf student. In turn, the deaf student has no time to answer it before everyone else does and the teacher moves on.

Other issues identified by Goswell, Carty, Napier, Leigh & Clarke (2021) included questions not being interpreted at all, interpreters dropping questions by switching roles, or otherwise not passing on questions as questions. All of these actions resulted in deaf students not receiving an invitation to answer. This has the effect of deaf students being unaware of teacher strategies for inviting their participation, or feeling they are ‘told’ information rather than engaged in discussion. It reduces deaf students to ‘bystander status’ in their own education, instead of being an active participant (see Russell, 2021). The authors concluded that the assumption that deaf students are being provided with equivalent classroom experiences as mainstream hearing students is wrong. These settings are not inclusive. This is a powerful study showing the detrimental effects of mainstream and interpreted

learning environments on deaf students' interactional opportunities. The researchers did not yet consider deaf students' perspectives on these interpreted interactions, but they will in future.

6.6 Cochlear implants and deaf children's communication

Hyde & Power (2006) canvassed several ethical issues with cochlear implantation of deaf children, concluding that equity of access for all deaf children depends on improving informed consent and holistic approaches to deaf childhood communication, beyond the focus on surgery and the implantation specifically. The authors found that implantation processes are not unbiased, comprehensive, or detailed enough to assist parents in making a fully informed decision for their child. They also found that independent advisors or advocates, preferably other deaf people, are essential for providing more balanced information and preventing conflicts of interest among cochlear personnel. The authors stressed that the rights of the child need to be adhered to, and direct consultation with the child should be happening, where it is appropriate and possible. They also expressed concern about issues of access to implants for deaf children from poor and non-white families, who may be using languages other than English in the home, and deaf disabled children. Even though the availability of cochlear implants can be good, there are still ethical questions that need to be addressed to reduce opposition and broaden the social and educational benefits for all deaf children with cochlear implantation.

Punch & Hyde (2010) examined the communication, academic and social outcomes of children with cochlear implants from the perspectives of teachers working with children with cochlear implants in Australia. They conducted a mixed-method study involving a survey with 151 teachers across early intervention, primary and secondary schooling in both metropolitan and regional areas, and a follow-up interview with 15 teachers. The researchers did not interview children themselves, only their teachers, as they considered that these professionals would have a good knowledge of individual children's outcomes and experiences. These methods elicited teacher's perspectives on children's functional outcomes relating to communication, academic, social, independence and identity.

Overall, Punch & Hyde (2010) found that children's reported achievements in literacy, numeracy and social development were below class levels. Approximately one-third of the children reported on could be considered in danger zones: at high risk of language deprivation and other issues, although the researchers did not use these terms specifically. The researchers also identified greater barriers for deaf children with cochlear implants and teachers outside of the major urban centres, in rural or regional locations. For example, when parents need to make long trips to the city for appointments, this creates exhaustion, additional expense, and missed days of school for the child. It also speaks to ideologies about signed languages in these areas, that it is still seen as an either/or option. As one teacher commented: *"And just that isolation—I know it's the same whether you're in western Queensland or rural New South Wales or rural Victoria, and I think those are really big issues that need to be addressed. You know, if you're really remote you probably think, well it's not much use being able to sign, so a cochlear implant is probably the way to go, but you're so remote when the thing breaks down, or you're having to get all the mapping or you're having to get that support"* (Punch & Hyde, 2010: 415).

Punch & Hyde (2010) described major themes such as the challenge of a lack of understanding on the part of school authorities in general, and from regular class teachers in particular, that implanted children are still deaf, not hearing. Lack of funding remains a huge issue, especially in regional areas. As one teacher explained: *"At the moment we have funding for eight hours teacher's aide. Unfortunately we don't have a signing teacher's aide, we're in a small rural setting, and we just don't have that. And with the signs he steps up a mark, he does a lot better if he can get some signed input. But the rest of*

the time he is really struggling. We are pushing for extra funding so that he's covered pretty well full-time, but that's highly unlikely...I know that his funding is one of the ones on the axe list...They think he's getting too much money. And yet he is a child who does not cope in the classroom, he's not accessing the curriculum; he's not able to do any of that without very directed instruction" (Punch & Hyde, 2010: 414). The researchers also observed that parents (usually mothers) were often the link between the implant centre or early intervention centre and the school. These findings align with other variable outcomes reported for deaf children with cochlear implants (e.g., Pisoni, Conway, Kronenberger, Horn, & Henning, 2008; Thoutenhoofd, et al., 2005). This literature supports the view that deaf children need holistic consideration and longitudinal research to determine how they fare over time in their schooling and personal lives.

Hyde, Punch & Grimbeek (2011) investigated the child and family-related factors predicting functional outcomes of cochlear implanted children in Australia. They used a parental report method, where they asked parents of 247 children their expectations and experiences of their child's progress in the domains of spoken language communication, social skills and participation, academic achievement, and independence and identity. Only families in the three eastern states of Australia participated. This project was the largest of its kind at the time. The researchers found that negative predictors of children's outcomes were that they had an additional disability and were implanted at over two years of age, while positive predictors were parental expectations of positive outcomes, their awareness of possible negative language-related outcomes, living in a major city area, the child having a sequential bilateral implant, and other variables related to spoken language communication, such as the parents' use of spoken English with the child and the child being in mainstream educational settings. They found no negative predictor values for parents' use of signed communication or use of signed communication in educational settings. This supports evidence regarding the value of signed language for deaf children with cochlear implants.

Harris, Hemerb & Chur-Hansen (2021) investigated parents' decision-making about the language and communication options available for their deaf children. The lead author is the mother of a deaf child with cochlear implants. The researchers wanted to challenge the 'hearing world' versus 'deaf world' binary, as it is too polarising. They conducted an ethnographic study from 2017 to 2018 in Adelaide, which involved a 'follow the baby' approach across multiple clinical settings including four audiology clinics, two cochlear implant centres and three early intervention services. Forty-one parents and twenty-seven health and education professionals were interviewed about their experiences of 'unbiased informed choice'. The researchers also accompanied parents and children to their appointments. Parents were from a range of social, ethnic and economic backgrounds, including several parents from South Asian countries. Five parents chose Auslan for their child and learned it alongside their children.

They found that while many parents said they knew what they wanted for their child, they also said that the process of making decisions was complex, uncertain, and confusing, especially in relation to what was 'best' for their child, and navigating both clinician and service provider power dynamics and agendas. For example, one mother commented, *"I found people with their own agendas. They all said they did best practice, but they all offered very different programs. I didn't know what to think."* Another mother who chose Auslan and a bilingual approach was criticised by her own mother, who said, *"You're making her disabled by signing to her."* This example highlights the negative ideologies about signing that still prevail. Decision-making was often a dynamic process, changing over time depending on various factors, including their child's progress. The researchers concluded that informed choice approaches often confuse and perplex parents, which may be counterproductive to good care practices. They called for greater transparency and collaboration in paediatric deafness, especially the

revision of outdated binary concepts of 'normality' versus 'abnormality' or signed language versus spoken language.

6.7 Classroom interactions

Power & Hyde (2003) compared itinerant Teachers of the Deaf and their students in Australia by state. They developed a questionnaire with questions about the training and experience of the teachers, the characteristics of their work as itinerant teachers, and other questions used to build a picture of their student groups. The researchers analysed responses from 143 itinerant teachers from Queensland, New South Wales, Victoria and Western Australia. They found very few differences across each state in relation to the work and perceived effectiveness of itinerant teachers, and the characteristics of their students. Teachers reported that the majority of their students used spoken language, with only 18% using "signs" and 10% using an interpreter (Power & Hyde, 2003: 393). Any differences that were identified probably related to the size of the state, the number of First Nations students, state policies relating to inclusion, and variation in professional development for teachers. The most frequent method of education was the withdrawal instruction: taking students out of class to consult with them, with low levels of consultation and collaboration with class teachers. Power & Hyde (2003) noted this is contrary to published state policies and the practices of inclusion, and questioned whether this method is specific to severely and profoundly deaf students and/or whether it is just what happens because itinerant teachers are trained in this method. They also questioned if the highly positive views that itinerant teachers had about their effectiveness would be supported by the views of other teachers and students.

Hyde & Power (2004) considered the definition and practices of inclusion for deaf students in regular classes. They drew on results from an earlier survey conducted with teachers and parents. The core concept of inclusion is that all students are full members of the classroom and school communities. This contradicts traditional models of itinerant teacher practices, which involve withdrawing deaf students from their regular classroom for specialised teaching. It also reorients the classroom teacher (not the special educator) as having the primary responsibility for educating all children in the classroom. Any additional specialist services required are expected to be offered within the classroom too. Hyde & Power (2004) also pointed out that inclusion models based on disabled students may not suit the needs of deaf and hard of hearing students. They questioned whether full inclusion is ever achieved, and called for further investigation on how inclusion plays out in the classroom. The concept and practice of inclusion was further investigated in a later comparison of deaf education in Australia and Norway (Hyde, Ohna & Hjulstadt, 2005).

Howard (2007) outlined key issues in the communications experiences of First Nations children and adults with conductive hearing loss. First Nations children are more susceptible to chronic otitis media than non-Indigenous children, often experiencing fluctuating levels of deafness throughout their childhood and adulthood. They have been found to participate less than other students in mainstream Australian education contexts, such as classrooms with non-Indigenous teachers using spoken Australian English. For example, students are seen as contributing less to class discussions, being less likely to answer questions, and more likely to be disruptive in class, all of which impacts their chances of academic success (Howard, 2007). A large part of these difficulties are due to the classroom environment: the cultural context of the classroom; teachers' perceptions of First Nations children with deafness and their responses to these children's behaviours; and the level of background noise in schools. For example, most classrooms do not match traditional cultural styles of learning, where First Nations children learn in small groups or one-to-one contexts (Harris, 1980; Erickson & Mohatt, 1981).

Communication breakdowns are rife, which leads to feelings of distress and shame in students, who respond over time with either absence or avoidance.

Teachers also frequently misunderstand behaviours of First Nations deaf children in racist and ableist ways. For example, after one teacher was told which of the Aboriginal children in her class had been identified as deaf, the teacher commented that their difficulties in communicating with one Aboriginal deaf student was because they were “more Aboriginal” than the other deaf and hearing Aboriginal students in the class. This example illustrates how the ideology of ‘cultural differences’ is used to explain away barriers to intercultural communication, including those resulting from hearing teachers’ lack of understanding on how to communicate with deaf children in general. Howard (2007) concluded that sharing a cultural worldview makes it easier for deaf Aboriginal children to communicate via speech, whereas speaking with someone with a different worldview (such as racist, audist, whitefeller teachers) makes it harder.

Checker, Remine & Brown (2009) explored parent views of educational services for deaf and hard of hearing children in regional and rural areas. They analysed survey responses from 34 parents of deaf and hard of hearing students receiving services from an itinerant teacher once or more per fortnight and who lived in regional and rural Western Australia, e.g., Albany, Bunbury, Geraldton, Kalgoorlie and Karratha. Results showed parents were generally satisfied with itinerant teacher services, but that these visits should be more frequent and longer. They offered many suggestions for improvement, including access to all communication modes such as spoken English and Auslan. Contrary to concerns that itinerant teachers spend a lot of time travelling, which decreases teaching time, most of the children in this study were within 20km of their itinerant teacher, which is common even in metropolitan areas. The researchers concluded that parents want and benefit from family-centred approaches, which puts them at odds with the school-based consultation services that are more common.

Dempsey, Arthur-Kelly & Carty (2009) explored teacher mentoring as a possible solution for shortages of qualified teaching staff and high turnover rates of teaching staff in the special education sector, including deaf education. Their research demonstrates that teachers’ longevity in the field is influenced by their initial professional experiences as early career teachers. They concluded there is a need to offer mentoring support to early career teachers, and suggested several possible models and technologies for offering mentoring support.

Matthews, Young, Parker & Napier (2010) investigated young deaf people’s use of the internet and online spaces, particularly in terms of possibilities for bridging gaps between deaf and hearing youth. At that time, online interactions were just starting to gain traction. The authors concluded that more access to online spaces did not automatically change deaf young people’s lives for the better. Rather, they found a range of experiences online were now possible, sometimes good and sometimes more complex. For example, cases where being online masks that the person is deaf, which can lead to harmful misunderstandings. Since then, deaf people’s use of and contribution to online spaces and services has increased steadily, especially with the growth of social media platforms.

Brett (2010) investigated live remote captions as a solution to issues with interpreter provision and notetaker support for deaf and hard of hearing students at the University of Melbourne and higher education. He raised concerns with the quality of the notetaker support model and Auslan interpreting support as leading to impoverished educational input for students, claiming that the high demand for Auslan interpreters made it impossible to fulfil demand. Along with the fact that interpreters need to fingerspell more in academic contexts, Brett claimed these are reasons to consider alternative models for access, along with the fact that “these support arrangements mean that Deaf students are the most

expensive group of students with disability to support” (Brett, 2010: 6). These reasons are both ableist and audist, as well as displaying ignorance of the role of fingerspelling in Auslan and how it can be used effectively. Nevertheless, live captioning was installed as the main access provision for deaf and hard of hearing students at the University of Melbourne. Brett (2010) concluded that providing access through live remote captioning mitigated some issues for some deaf and hard of hearing students. He also offered recommendations for how disability services and academic staff can better accommodate deaf and hard of hearing students in future, but lacked awareness of why some Deaf students need Auslan in their higher education.

Furlonger, Sharma, Moore & King (2010) outlined a restructured postgraduate teacher education programme for training teachers of deaf and hard of hearing students in inclusive settings. This article focused on the design and development of the programme, not the evaluation of outcomes. A core aim was to prepare the trainees with training in the use of both spoken language and Auslan. The idea was that all students will successfully finish the Post Graduate Diploma in Education (inclusive and special education) and the Certificate in Auslan by the end of their programme. It is not clear whether this aim was achieved or what the outcomes were.

Todorov, Galvin, Punch, Klieve & Rickards (2022) investigated the barriers and facilitators to engaging in mainstream primary school classrooms from the perspective of deaf and hard of hearing students who use spoken English as their main form of communication. They conducted semi-structured interviews with sixteen deaf students aged 9 to 12 to explore their self-perceived barriers and facilitators. Students were interviewed using a series of questions and a card-sorting activity, where they had to sort A3 cards into two columns labelled “makes it easier to join in classroom activities” and “makes it harder to join in classroom activities”, such as “having captions on the screen when watching videos”. The authors identified four themes in their analysis: (1) barriers to engagement (e.g., difficulties during small group work, difficulty following multi-part instructions, lacking confidence); (2) student strategies (e.g., sitting at the front, asking for support); (3) support to students (e.g., assistive listening devices, support from classmates, signed language support); and (4) teacher actions (e.g., providing written information, managing the class, repeating what was said). In particular, they found that self-advocacy is vital for deaf students and that there are potential benefits to implementing self-advocacy programmes for deaf and hard of hearing students to help them manage the challenges of engagement in mainstream classrooms. They also noted the importance of teachers being consistent with their teaching strategies, and developing better noise management in the classroom.

6.8 Theory of mind in deaf children

O'Reilly's (2022) doctoral research explored the psychosocial outcomes for deaf children's theory of mind when they experience delayed late signing acquisition, compared to the theory of mind development for typically progressing early signing deaf and hard of hearing children in real-world contexts. Her overarching objective was to develop the concept of theory of mind as a lifespan phenomenon for deaf and hard of hearing native and late signers alike. This is important for understanding the repercussions for 'atypical' signed language development experienced by many deaf children, and the effect that unsuitable or lacking early intervention and education practices may have on later theory of mind performance and sociocognitive functioning beyond preschool years. O'Reilly is herself a CoDA (Child of Deaf Adults) and Teacher of the Deaf, and used literature reviews and Auslan translations of theory of mind measures in her research.

O'Reilly (2022) found that early access to language acquisition, a community of fluent language users, and conversational interactions supports conventional theory of mind and sociocognitive

progressions in hearing and native signing deaf and hard of hearing children alike. She also found that more sophisticated theory of mind advances into adolescence and even adulthood. Conversely, late signers demonstrate significant theory of mind delays in childhood and adolescence. This is due to impoverished early language and reduced access to fluent signers. However, O'Reilly found that if late signers spent longer at school acquiring signed language, with personal and social capability reinforcements, and access to fluent-signing conversational partners, then it is entirely possible for their theory of mind development to progress into adolescence and adulthood – – “albeit to an extent.” These findings can be used to combat prejudice about signed language use in early intervention programmes, and also provide validation for educators to reconsider whether interpreter-mediated pedagogies meet the full needs of deaf and hard of hearing students. For example, by supporting more and richer peer-to-peer relationships with other bilingual deaf and hard of hearing students. O'Reilly also argues against existing ‘hearing-centric’ research protocols and encourages hearing researchers to better consider the impact of their positionality in research relating to deaf and hard of hearing signing children.

O'Reilly (2022) builds on earlier studies investigating theory of mind in deaf children and adults, including O'Reilly, Peterson & Wellman (2014), which compared deaf native signers, deaf late signers and age-matched hearing non-signers in childhood and adulthood in terms of their results on tests of first and second order false belief and conversational sarcasm. They found that theory of mind develops over the lifespan for deaf and hearing people alike. In other words, it is not a phenomenon restricted to childhood. They also found that hearing peers outperformed deaf native signers and deaf late signers on advanced theory of mind in childhood. Native signers caught up by adulthood, whereas late signers did not. However, it is unclear if this finding is a result of theory of mind tests developed for ‘normal’ hearing cohorts and later applied to deaf cohorts, when theory of mind development tests for deaf children may need to be developed on their own terms. Regardless, this study supports the importance of conversational interaction for theory of mind development in deaf and hearing children alike.

Peterson, O'Reilly & Wellman (2016) compared deaf and hearing children during middle and late childhood using two measures: (1) cognitive understanding of basic and advanced theory of mind, and (2) social dimensions of peer group relations, including popularity, isolation, leadership, and the disposition to interact positively with peers. They also conducted a correlational analysis to examine theory of mind connections with these social variables to see if and how theory of mind impacts children's lives. Again, hearing children outperformed deaf children on theory of mind and all social variables (which were determined by their teacher). After controlling for age, gender and language ability, popularity correlated positively, and social isolation correlated negatively, with deaf children's theory of mind. This result suggests that the quality of deaf children's social interactions are especially important for development of theory of mind. For hearing children, the only theory of mind link was a weak correlation with leadership, suggesting that the leadership role a hearing child takes might possibly impact on their theory of mind development. A six-step developmental theory of mind scale based on hearing cohorts was also used for this study, rather than a deaf-centred measure.

6.9 Attitudes to deaf people and signed languages

Slegers (2010) explored contemporary attitudes to Auslan using semi-structured interviews with deaf and hearing people, participant observation in the Deaf community, and analysis of government and educational language policies. This paper was published from a lengthier doctoral dissertation on this topic that is not currently available in electronic version (Slegers, 2007). Slegers gives a historical overview of past attitudes towards deaf people and signed languages, and the factors shaping these attitudes. She concluded that while historically attitudes have been negative, factors such as

educational research and increasing visibility of deaf people and signed language in the media and arts will continue to shape social and political attitudes in a more positive way.

Dillon (2015) completed her doctoral dissertation investigating Deaf ways of being and signed languages through examination of written debates and discussions available in South Australian public print media documents. The writers of these documents were both Deaf and hearing people, written over a thirty year period. This provided Dillon with the opportunity to also explore how Deaf and hearing relationships played out in these discursive contexts, as well as interrogate the process of “coming to voice” for the SA Deaf community (see Humphries, 1996). Dillon identified several key themes, much of which centred on differing and sometimes angry debates about the validity of signed language and deaf culture, deaf education pedagogies, the structure of the education system, cochlear implantation of deaf children, views relating to the skills, competence and attitude of teachers of the deaf, and the public representation of deaf people, signed language and deaf culture. Dillon also identified numerous expressions of culturally Deaf ways of being, as well as linguistic strategies for developing deaf ontologies through written debate, including methods for challenging oppressive views. She identified common metaphors used within these discursive practices, such as ‘barriers’, ‘silence’ and ‘worlds.’ This work challenges educators to rethink their underlying beliefs about deaf people and signed languages, and understand their position in historically cyclical events of oppression.

Malone’s (2017) doctoral dissertation investigated why deaf students in NSW continue to face a range of barriers in their education from primary through to secondary school, despite all the advances in legislation, policy, advocacy and technology in the past decades. She argued that this situation persists due to fragmentation in deaf education movement that is driven by different camps competing through opposed advocacy efforts, all within the broader context of growing corporatisation and privatisation. She concluded with recommendations such as the need for State Government investment and acknowledgement of the fact that polarisation and gatekeeping does not serve deaf children’s interests, nor does it support the basic fact that one method does not suit all children.

Smith (2019) wrote his doctoral dissertation charting the history of deaf education in Western Australia. The author dedicated the book to past, present and future deaf and hard of hearing children in WA as being their story and their history. Smith centred this history on the waxing and waning of audism over time in terms of how it manifested in the deaf education system of WA. He ultimately concluded that the current hybrid model is rich with potential. It seems a very urban history and it is not clear how much is reflective of the views of different deaf West Australians.

Sealy, McMahon & Sweller (2023) examined whether hearing parents treat and perceive their deaf and hearing children differently in terms of parenting styles and perceived vulnerability. They also examined whether hearing parents’ ability to resolve their feelings about their child’s deafness was related to parenting morale, and whether they perceived their child as vulnerable. A total of 84 parents with a deaf child aged 5-12 years responded to their online survey, and 32 of those also reported on a hearing sibling in the same age range. Several different measures were used, including a Reaction to Diagnosis Interview. The researchers found that unresolved feelings about diagnosis were linked to lower parenting morale and greater perception of child vulnerability. Sibling comparisons indicated that parents also reported a higher perceived child vulnerability score for the deaf child compared to the hearing sibling. In other words, parents with unresolved feelings about their child’s deafness are more likely to have lower parenting morale and also parent their deaf and hearing children differently, with deaf children more likely to be shown authoritarian or permissive parenting, rather than authoritative parenting (which typically involves warmth, autonomy, healthy discipline based on reasoning, and sensitivity to their child’s needs). This study illustrates the need for support for parents

both at the point of diagnosis and afterwards, as lack of support can adversely affect their parenting of their deaf children.

6.10 The impact of newborn hearing screening programs

Perhaps one of the most telling and prominent examples of attitudes towards deaf people and signed languages is occurring through the activities of the Longitudinal Outcomes of Children with Hearing Impairment (LOCHI) study (see Ching, Dillon, Leigh & Cupples, 2018). The LOCHI study is based at the National Acoustic Laboratories (NAL) at Macquarie University in Sydney. It is a population-based longitudinal study designed to evaluate the development of a group of Australian children with deafness as they grow up. It tracks approximately 460 children across QLD, VIC and NSW who are tested by NAL researchers at different times as they grow up. Testing focuses on speech and language skills, literacy and numeracy skills, academic achievement, psycho-social development, and cognition (see [LOCHI](#), 2023). Researchers also collect demographic information about each child, their family, and any interventions the child receives. All children in the study were identified as deaf through either the Universal Newborn Hearing Screening (UNHS) or standard care, and all children receive the same services provided by the NAL nationally. This enables results to be compared directly regardless of where the child lives or when they were identified as deaf.

While the LOCHI study is important and unusual in being a large longitudinal study of deaf children, it does not include deaf children who learn and use Auslan. The researcher team decided early on to exclude families who use Auslan with their deaf children, ostensibly because numbers were too small to be statistically significant. This represents a form of discrimination playing out in science, whereby statistical significance is given as a reason for excluding minority groups, which by definition are smaller in number. It is also unbelievable that this decision was taken given the sheer breadth of research empirically affirming the benefits of signing for deaf children and their families that has been done worldwide. Unfortunately, it means that a crucial opportunity for providing a longitudinal picture of deaf signing children's early development in Australia was missed. It is hard to see how the approach taken by LOCHI is scientific in this light. Instead, it more accurately reflects the prevailing negative attitudes towards deaf people and signed languages in Australia.

7. EMPLOYMENT

The literature relating to employment in Australia is even less robust than education. It focuses on existing employment outcomes for deaf signing people, career pathways for deaf youth from vocational education training to employment, and deaf people's experiences in the workforce.

7.1 Employment outcomes

Willoughby (2009) analysed general education and employment outcomes for Victorian signed language users, basing her analysis on results from the 2006 Australian Census. She summarised educational and occupational attainment factors of highest year of schooling, highest qualification, occupation, labour force status, and weekly income. Only signed language users aged over 16 were included in her analysis, and employment information for people over 65 was excluded as this was the general age for retirement in Australia at the time. Willoughby (2009) found that in 2006 there were 2,117 signed language users living in Victoria. Most of these people are young, with 40% under the age of 30 and 33% between the ages of 30-49. Most people were likely to be Australian born (88%), and younger signers were starting to achieve education parity with the general population in terms of holding TAFE or University qualifications. However, the proportion of deaf people who completed high school still lagged behind the general population. It is also likely there were many more deaf signed language users who were born overseas, but did not access signed language or deaf services until later in adulthood, if at all (see Willoughby, 2015b).

Willoughby (2009) expressed concern about the employment opportunities for school leavers, given that the work force landscape has changed dramatically. In 2006, signed language users were 50%

more likely to be unemployed than the general population (7.8% unemployment rate against 4.9%). She concluded that unemployment and under-employment remain huge issues for deaf people in Victoria. This gap is also reflected in weekly income comparisons. For example, between the ages of 15 and 65 the proportion of signers earning less than \$400 per week is at least 10 percentage points higher than the general population (Willoughby, 2009: vii). This suggests that even if the DDA has led to improvements in educational attainment, deaf people are not seeing these gains accumulating in terms of how much they can earn. For example, while signed language users are just as likely to work in professional, trades or administrative professions, they are 50% more likely to be labourers or community sector workers, and less likely to be managers, when compared to the general population (Willoughby, 2008: vii). Signed language users living in regional Victoria were also seen to have greater difficulties finding work, especially full time work, than people living in metropolitan Melbourne.

Willoughby (2011) investigated whether signed language users' education and employment levels are on par with the general Australian population. She used data from the 2006 Australian census to explore the education and employment outcomes of signers living in Victoria, and compare them with outcomes reported in the general population, using findings from the 2009 report. Willoughby found that while signed language users are close to equality with the general population on some measures of educational attainment, there remain large gaps in employment levels, especially income. This is especially the case for signed language users in the 45-64 age group, but even younger signed language users are struggling to see employment outcomes on par with the general population.

7.2 Pathways to employment

Clark (2007) interviewed young deaf people from Victoria to identify and evaluate the pathways available from vocational education training (VET) to employment. She found that secondary schools with deaf facilities, deaf schools, mainstream schools and other support services (including specialist employment agencies and disability liaison officers) need to be better connected to assist students with a smoother transition. At that time, students were not getting jobs commensurate with their skills and training. Students reported that their career options were limited by their own and others' perceptions of their capabilities. Lack of communication access and support, such as Auslan interpreters, notetakers, etc, was identified as the main barrier to deaf students in learning environments. Clark argued that deaf students require more specialised assistance, such as life coaching and deaf specialist career advisors to assist them in deciding their career paths. The deaf people interviewed also said they wanted deaf role models and information in a more accessible format to help them make more informed decisions.

7.3 Workforce experiences

Punch (2016) investigated the status and experiences of deaf and hard of hearing adults in the workforce. She was primarily interested in the barriers, accommodations and stress experienced during employment. While many deaf and hard of hearing people living in developed countries such as Australia are successful in a wide range of occupations and careers, there are still higher rates of unemployment, underemployment and lower levels of education compared to people who are not deaf. For example, pay gaps exist and persist, highly qualified people remain under-employed, work options remain comparably limited, it can be difficult to change jobs and generally takes deaf people longer to find a job compared to people who are not deaf. In Australia, even though levels of educational attainment are approaching those of the mainstream population, there is also a tendency for deaf people to be overrepresented in lower-level certificate and diploma courses, with Auslan signers

generally experiencing poorer employment and earning outcomes compared to the general population (Willoughby, 2011). According to Census data, deaf people have lower labour force participation and under-employment compared to the general population, especially those who have been deaf since childhood and who use Auslan (Hogan, O'Loughlin, Davis & Kendig, 2009).

In 2021, the Australian Government published an overview of 65 responses to the Employment Issues paper resulting from the Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (Australian Government, 2021). The Royal Commission sought information on why disabled people are less likely to be employed and more likely to have lower incomes than people with disability. They received 65 responses including from people with disability, families, third sector organisations, peak advocacy organisations, business advisory bodies, and academics. The key themes include systemic neglect and discrimination against people with disability in both job seeking and employed positions, including examples of violence, abuse, neglect and exploitation, such as being expected to work in volunteer roles without pay. The demoralising effects of long-term unemployment and lack of social participation was another theme, along with issues experienced while being employed, such as bullying and harassment. Barriers to employment include attitudinal barriers, discrimination, structural barriers, physical or environment barriers, and organisational barriers. Poor transitions from education and training into employment was also discussed as a major barrier to long-term workforce participation, which are perpetuated by inadequate reporting and response mechanisms. For example, disabled people wanting to challenge an employer under the DDA are often referred to the Federal Court, which is too risky and costly for most people. The report also details what needs to change to fix these problems.

8. HEALTHCARE

The healthcare literature relates to primary healthcare (including access to information and language planning), mental healthcare (including translating and testing Auslan versions of existing psychiatric assessments), and aged care.

8.1 Barriers to healthcare information

Several publications have focused on identifying the barriers to accessing health care information experienced by deaf Australians. Saxton-Barney (2010) prepared a submission to the Senate Committee Inquiry into Hearing Health in Australia (see Senate Community Affairs References Committee, 2010). She explained how the barriers faced by Indigenous deaf people are more complex than mainstream Deaf communities and Indigenous communities, due to complexities relating to family, housing, education, welfare, justice and communication. Saxton-Barney attributed the extent of these barriers to entrenched, multigenerational racism and oppression experienced by Indigenous deaf people.

Napier & Kidd (2013) identified English literacy as the main barrier to deaf Auslan signers accessing preventative and ongoing health care information. They conducted 72 semi-structured interviews with Deaf Auslan signers reached through purposeful network sampling. They then used thematic analysis to identify issues related to accessing healthcare information in English. The researchers found that Deaf people experience barriers because of limited English literacy and lack of information in Auslan, except for when Auslan interpreters are present in healthcare appointments. Napier & Sabolcec (2014) extended this work by considering what deaf Auslan signers need in terms of access to healthcare information. They determined different generations of deaf signing people have different

needs, ranging from information received directly in Auslan, via an interpreter, or through translated materials. However, their proposed solutions focused mainly on interpreted and translated text, rather than direct communication such as peer-to-peer community networks.

Massa, Withers, Leggett, Dirago & Yoon (2015) conducted a health needs analysis (HNA) of the Victorian Deaf community to determine their prominent health needs. They conducted a focus group at Vicdeaf with members of the Deaf community, followed by a semi-structured interview with the Vicdeaf communications manager regarding interpreter provision in hospital settings. The main themes identified included poor interpreter provision, especially after hours, supply and demand issues, and poor interpreter booking processes among hospital staff. They recommended that future research focus on: (1) reviewing the current training methods of Victorian hospital staff in booking Auslan interpreters; (2) identifying why interpreter provision is so poor after hours; and (3) implementing measures to improve training hospital staff and the provision of after hours interpreting. The researchers concluded that the existing situation amounts to unsafe practice, and emphasised that all individuals have the right to accredited interpreters upon request within publicly funded healthcare services.

Terry, Lê & Nguyen (2016) investigated access to healthcare for the Tasmanian Deaf community. The researchers explored health awareness and access to health information and services via a questionnaire and semi-structured interviews and focus groups with service providers and Deaf community members. They found that health as a concept was poorly understood, including mental health, sexual health, and health relating to alcohol and drug abuse. They also found that the family physician or GP was the single most important healthcare provider for deaf people in Tasmania. The researchers concluded that the Tasmanian Deaf community remains underserved. However, they also stated that deaf people have developed coping and management strategies which allow them to “move forward with dignity in education, meaningful employment and health access.” This is likely a romanticised view of a systemic problem.

DeLacy, Dune and Macdonald (2020) considered the social and environmental determinants of otitis media in Aboriginal children in Australia, such as overcrowded housing, poverty and limited access to services. They conducted a scoping content review of the literature. They found there have been no intervention studies targeting social determinants as a way of reducing otitis media among Aboriginal and Torres Strait children. Instead, the focus of public health interventions remains on treatment-focussed measures such as research on vaccines and antibiotics. The researchers concluded there is an urgent need for intervention studies targeting the social determinants of otitis media.

O'Shea, Latham, McNair, Despott, Rose, Mountford & Frawley (2020) conducted focus groups with LGBTIQ+ people with disability in Victoria, including one focus group with deaf Auslan signers in a regional centre. They reported on two themes relating to participants' experiences of accessing health services: (1) difficulties in managing multiple identities; and (2) the impacts of community services and supports. The researchers found that many healthcare services are not inclusive in their practices. For example, existing practices often force LGBTIQ+ people with disability to wear a 'cis, heterosexual mask' and/or repeatedly 'come out' in a range of ways. This makes it difficult for LGBTIQ+ deaf and/or disabled people to accurately present their needs and experiences to the services they wish to access. Overall, LGBTIQ+ services do not tend to support disability disclosure, and disability services do not tend to support LGBTIQ+ disclosure. This means that disabled LGBTIQ+ people are not seen holistically within any of the services they try to access.

Deaf focus group participants commented on the need for in-person support networks, since online opportunities are often limited for LGBTIQ+ people with disability. For example, one deaf person

commented, *"You get to meet many people in the Deaf world, but out in regional areas, you're the only one, essentially, so being a woman, living out there and being a lesbian, there's not a lot of options for me out there. It's very limiting."* (O'Shea, et al., 2020: 10). Deaf focus group participants also commented on how their pride in their LGBTIQ+ identity was supported by an existing Deaf identity. The researchers concluded that pride in oneself and feeling accepted by one's community helps disclosure.

Lee, Spooner and Harris (2021) investigated access and communication for deaf people in general practice settings. They conducted semi-structured interviews with eight Auslan interpreters and four deaf participants. They identified patient, provider, and contextual barriers to communication. These included English and Auslan fluency levels, variation in the willingness of GP clinics to accommodate the needs of deaf people, and the communication methods used by healthcare providers and interpreters. These barriers exist amidst wider contextual barriers regarding the availability of Auslan interpreters and the complexities of the NDIS.

Jacob, Palanisamy, Napier, Verstegen, Dhanoa & Chong (2021) also discussed how healthcare providers' lack of knowledge about deaf culture and the health-related challenges experienced by deaf people contributes to healthcare disparities. They propose that healthcare providers be trained in cultural competencies, which is currently lacking in healthcare education.

Beaver & Carty (2021) offered a deaf-centred perspective on the barriers to healthcare communication experienced by deaf people. The main issue is that the healthcare system is based on the medical model of disability and deafness, contrary to the social model that deaf people are more likely to position themselves within, such as Auslan signers accessing healthcare services via interpreters. The researchers discussed how the COVID-19 pandemic has highlighted historically persistent healthcare barriers, such as inconsistencies in public health information via captions and interpreters on broadcast media, as well as new barriers that have emerged, such as the prevalent use of face masks. They concluded that historical barriers are persisting while new ones have emerged, and that research about deaf people and our health should be done with us, not about us. They also summarised how the pandemic has highlighted the systemic inequities faced by deaf signers more generally.

Heinrichs, Kretzer and Davis (2022) mapped the online language ecology of multilingual COVID-19 public health information in Australia by comparing public health information disseminated in two states, Victoria and Northern Territory, including information in Auslan. They wanted to understand the relevance and impact of state language policies in two very different cultural contexts, as Victoria has the highest number of people speaking a language other than English at home, while the Northern Territory has the highest number of people speaking an Indigenous language at home. They compared the public health outputs created by the Victorian and NT Governments, and analysed what resources and languages were translated.

The researchers found there are huge gaps in how information is (and is not) disseminated to CALD communities, with discrepancies and lack of coherence between policy guidelines and what practices are actually carried out. For example, the fact that English remains the dominant language on official government websites, and the fact that many Indigenous local community members are better and more effective at translating COVID-19 information in local contexts compared to NAATI-qualified interpreters working from politicians speaking on TV. The researchers made two main recommendations. Firstly, they suggested that broader definitions of qualified translators and interpreters could be useful in creating more community-based content. Secondly, they recommended that crisis-specific guidelines specific to each cultural and geographical context are created, providing a bottom-up resource that can potentially counteract the confusing way that state-level language policies are enacted in real time.

8.2 Language planning for improved healthcare

Language planning has often been discussed as a solution to barriers for accessing healthcare information. Johnston & Napier (2010) reported on the development of Medical Signbank. The aim was to develop a web-based interactive, multimedia dictionary and database of Auslan that could be used to create an effective, accepted and shared signed language vocabulary for medical and mental health discussions in Auslan. This resource could be used to support signed language interpreter training, Deaf community education, and language planning via language standardisation. The researchers focused on two issues relating to signed language interpreter-mediated healthcare: situational and contextual use of language, and vocabulary. The first issue relates to the need for Auslan interpreters to have sufficient contextual understanding of the knowledge and language used by medical professionals in healthcare contexts, and of the knowledge and language currently (not) available to deaf patients using Auslan, and which therefore needs to be unpacked or scaffolded within interpreted interactions. They framed this situation as one of 'limited diffusion', whereby there is a language that has not been used in a wide range of functional or specialist domains. The Medical Signbank resource has now been integrated into the broader online Auslan Signbank and tagged as 'health-related signs'. New signs and concepts are regularly added.

Major, Napier, Ferrara & Johnston (2012) investigated lexical gaps in Auslan relating to healthcare settings. They wanted to describe how healthcare information is discussed by deaf signers and interpreters, considering the health-related lexicon in Auslan is 'strikingly under-developed'. Using thematic analysis of focus groups conducted with signers in Melbourne, Sydney and Brisbane, they identified a range of communicative strategies that are used to circumvent lexical gaps. These included the use of fingerspelling, depiction, and explanations. This research complements similar findings from research with Auslan interpreters (Napier, Major & Ferrara, 2011). However, the researchers cautioned that individual deaf people have their own preferences, and so it is not possible to recommend a solution that suits everyone. For example, the brokering of English healthcare terms often depends on the deaf person's use of English. Deaf signers expect competent interpreters to be flexible and accommodate their needs. Regarding the need for interpreters to sometimes explain medical information, the researchers also cautioned that this should only be done in consultation with the doctor present.

Napier, Major, Ferrara & Johnston (2015) described the Medical Signbank signed language planning project in more detail, evaluating the outcomes of the bottom-up language planning model that was used. They found that the Auslan interpreting community and Deaf community were not actively engaging with Medical Signbank in the way they had envisioned. This means that while interpreters and deaf signers were willing to use it as a resource, they were reluctant to contribute by sending in signed videos of the signs they use. In fact, no interpreters had sent in any videos by 2010. The researchers attributed this to three reasons: (1) time and technology constraints; (2) not understanding that any videos would be anonymous; and (3) reluctance to be seen as offering novel signs they have created or taking 'ownership' of Auslan. While this paper focused on interpreters, the researchers did share that while deaf people appreciated the resource, they already have resources within Auslan to circumvent any lexical gaps. The researchers concluded that targeted focus groups for deaf people and interpreters, to document and discuss medical-related signs and concepts, would have been more useful.

Ferndale, Watson & Munro (2016) explored how healthcare professionals understand experiences of deafness. They recognise the importance of sociocultural dimensions of medicine, including how healthcare professionals perceive certain demographics. The researchers conducted eighteen interviews with medical and allied health professionals in Australia, identifying a main theme of

'hearingness as privileged'. This theme refers to the tendency for healthcare professionals to recognise that the quality of health services for deaf people in Australia is not good enough, but they are doing the best they can, while also negotiating a larger health system that continues to disadvantage deaf people. For example, the medical professionals interviewed were asked to comment on whether they thought an equally qualified deaf person could work in their professional role, assuming equal access to training and education. Interviews had initial positive responses, before qualifying these with factors that would prevent the change from happening. For example, that deaf awareness training would only fit into postgraduate courses not undergraduate courses, and that the deaf person would only work with other deaf people and clients, and that numbers are so small as to negate any good that might come of this. The authors concluded that the health system currently privileges hearingness and offered recommendations for addressing this.

8.3 Aged care

Willoughby (2014) unpacked the barriers to quality care for deaf people in residential aged care facilities. She builds on an earlier report prepared for the Victorian Deaf Society (Willoughby, 2011) by exploring the barriers from the perspective of fifty deaf signing residents and fifteen service providers. The main barriers included lack of access to communication, as aged care staff and other residents do not usually know Auslan and hence deaf people in aged care are extremely socially isolated. Staff also lack training in managing communication breakdowns and the conflict that results from these. Willoughby identified several methods for improving current practices. These included creating small deaf wings within larger aged care facilities, similar to the deaf facilities at some mainstream schools, and funding changes to ensure that deaf Australian aged care residents do not fall through the cracks. She emphasised that deaf people have the right to live at whatever aged care facility they choose, and to have access to funding support for their care needs.

8.4 Mental healthcare

Cornes, Rohan, Napier & Rey (2006) investigated the impact of signed versus written questionnaires on the prevalence of psychopathology among deaf adolescents in Australia. This study was conducted because there were no empirically validated measures of psychopathology that could be easily understood by signing deaf children, including deaf children from non-English speaking backgrounds (see also Cornes & Wiltshire, 1999; Tong, Cornes & Wiltshire, 1999). The researchers strived to fill some of this gap by adapting the Youth Self-Report (YSR) into Auslan to assess its reliability, and compare the prevalence of clinically significant psychopathology in deaf teenagers when using the Auslan questionnaire versus the standard English version. The researchers translated the YSR into Auslan and piloted this version with 29 male and 25 female teenagers in Tasmania and NSW. They also collected data from parents (Child Behaviour Checklist) and teachers (Teacher's Report Form).

The researchers found that the Auslan YSR showed comparable reliability to the standard English YSR, and that it identified a higher prevalence of clinically significant emotional and behavioural issues in deaf teenagers compared to the prevalence identified via the written version. For example, deaf teenagers reported much higher prevalences of depression, somatic complaints, social problems and thought problems compared to their non-deaf peers in the national population. They did not report higher prevalence of attention problems and rule-breaking behaviour. However, there was a large amount of missing data in the English YSR which undoubtedly affected the Auslan version. This is a fault of the original test. The researchers concluded that the Auslan YSR is reliable, more acceptable and more accurate than the standard written English YSR for deaf teenagers who use Auslan. They

also cautioned clinicians against using written English questionnaires with deaf teenagers who prefer signed communication, as this may produce invalid results such as underestimating the level of emotional disturbances experienced by deaf teenagers.

Denman (2007) investigated the barriers that Indigenous and CALD people experience in trying to access the mental health system in Queensland. This research was conducted at the Queensland Transcultural Mental Health Centre, and aimed to reveal the unique psychosocial and cultural factors that need to be considered in relation to mental health care for these people. Denman initially liaised with the Wuchopperen Health Service, who directed her to the Deaf Indigenous people who frequently meet formally and informally in Cairns. Through engagement with their regular Auslan interpreter, Denman invited them to participate in a community consultation on this topic. Two consultations were held at a culturally safe place with assistance from a Deaf Indigenous Relay Interpreter.

The main concerns and barriers raised by the Deaf Indigenous community in Cairns related to: (1) communication barriers, e.g., case managers using written English during home visits; deaf person preferring signed languages other than Auslan, which may not be known to hearing family members; and the lack of interpreters; (2) service provider barriers, e.g., providers unfamiliar with deaf cultural norms and preferred communication practices; providers not comfortable working with interpreters or refusing to provide interpreters; no way of knowing if name was called in a large, noisy waiting room; appointment sessions not long enough for the time required; (3) cultural barriers, e.g., assumptions being made about their cultural identity; (4) social barriers, e.g., feeling isolated during admissions because there was no-one who shared the same language or cultural beliefs; lack of culturally safe spaces to receive treatment and heal; being assigned a male or female case manager even if this conflicted with their family's cultural beliefs; significant others being assigned as interpreters, even if they did not understand all the information and meant the deaf person had no privacy; and (5) physical barriers, e.g., mental health and general health services located a long way from their community; communication aids and technology not used or not available.

Denman (2007) also identified other issues to accessing mental health care, including psychosocial barriers. These included feelings of powerlessness that come with it being culturally inappropriate to directly challenge an authority figure, social stigma and shame about mental illness, fear of being admitted to a psychiatric unit and not being released because they are deaf, and a lack of effective early intervention and health promotion, including culturally and linguistically appropriate psycho-education. Denman concluded with a multifaceted series of recommendations encompassing research, service provision, education and training, and resource development. She also emphasised the need for further consultations with non-Indigenous CALD communities in relation to the barriers they experience too.

Rodrigues' (2007) doctoral dissertation investigated deaf adult's experiences of mental health, culture and communication. It was prepared by a hearing mental health professional with experience working with deaf adults who use Auslan, often in trauma and crisis contexts. Her aim was to explore the world of deafness and identify the major issues experienced by deaf people, and support a paradigm shift in how deaf people are perceived as both a disabled and cultural minority. Rodrigues proposed that Personal Construct Theory can be used to both validate deaf experiences and provide an explanation of the hearing world's interpretation of cultural deafness in clinical contexts. She conducted three studies: (1) a study to establish the extent of the problems associated with diagnosing health and mental health issues in deaf people; (2) a study to translate in Auslan and trial the adaptation of a widely used diagnostic mental health test in Auslan; and (3) a study exploring the ways in which culturally deaf and hearing people interpret themselves and each other using Personal Construct Theory. Rodrigues concluded with a discussion of how her research contributes to changing

perceptions of deafness and the social conditions experienced by deaf signing people. Her thesis also included a range of case studies of diverse deaf people, including deaf people with cerebral palsy, schizophrenia, and many other conditions.

Munro & Rodwell (2009) translated and tested the Outcome Rating Scale (ORS), a measure of general functioning, into Auslan for use in clinical settings. The ORS-Auslan was piloted with 44 culturally deaf Auslan signers on their first presentation to a mental health or counselling facility and to 55 culturally deaf people in the general community. These community members also completed an Auslan version of the Depression Anxiety Stress Scale-21 (DASS-21). The researchers then examined the reliability, validity and acceptability of the ORS-Auslan between the clinical and community groups, and found significant differences between them. This confirmed the ORS-Auslan can be used in a wide range of mental health and community settings to distinguish between clinical and non-clinical presentations for deaf signers in mental health contexts.

Munro's (2010) doctoral dissertation aimed to develop a culturally affirmative counselling model for deaf people in Australia, and provide clinicians with tools to evaluate the effect of their therapeutic work with deaf people seeking treatment. She undertook four separate studies to: (1) develop a culturally affirmative counselling model for deaf people using social constructionist counselling techniques and a reflecting team with deaf clients, hearing therapists, and interpreters. This included establishing a pilot clinic and undertaking semi-structured interviews with deaf long-term clients after one year; (2) identify appropriate psychometric measures that could be translated into Auslan for research into efficacy, effectiveness and counselling outcomes. She identified the Outcome Rating Scale (ORS) as a measure of global functioning and the Session Rating Scale (SRS) as a measure of therapeutic alliance; (3) establish the validity and reliability of these new Auslan measures based on normative data from the Deaf community; and (4) evaluate counselling outcomes with six deaf clients over ten months within the enriched counselling service developed in the first study, and using the new Auslan translations of the ORS, SRS and another measure DASS-21.

Munro's (2010) studies were undertaken in response to the fact that, at the time, there was only one dedicated mental health service catering specifically to deaf signers in Australia, and the urgent need for deaf people to have access to therapeutic services underpinned by awareness of the common factors affecting deaf people specifically. She found that the ORS-Auslan is reliable, valid and adequate for differentiating between clinical and non-clinical presentations, and that other translated measures are also useful in clinical mental health contexts. Munro also found that the culturally affirmative counselling model is effective in improving outcomes for deaf signing people.

Remine & Brown (2010) investigated the prevalence rate and nature of mental health issues experienced by deaf children and teenagers and compared these to their hearing peers. They also wanted to identify any specific demographic characteristics that may be representative of deaf children and teenagers with mental health issues. Their method included 38 teenagers, 66 parents of deaf children and teenagers between 6-18 years of age, and their teachers. Data was collected using the Child Behaviour Checklist and YSR. Auslan interpreted versions were used for participants who preferred Auslan. Data related to demographic characteristics were obtained via parent and teacher surveys. The researchers found that the overall prevalence of mental health issues reported by parents and deaf teenagers is comparable to the Australian hearing population. However, parents reported significantly more concerns on the social problem and thought problem scales. Deaf teenagers also reported significant differences between the prevalence and nature of mental health issues compared to hearing teenagers in another Australian study. The researchers attributed these differences to their attending schools for the deaf and preferring to communicate via Auslan. They concluded that mental health professionals need to consider the full range of these demographics when selecting and using

psychiatric instruments for assessing child and teenage mental health. This research also suggests there may be issues with interpreted psychiatric assessments, and that assessments produced first in a signed language may be more beneficial.

Cornes & Brown (2012) investigated mental health issues in 54 deaf teenagers between 11 and 18 years of age in NSW and Tasmania. Their aim was to develop a simple, reliable, cost-effective, and culturally and linguistically appropriate alternative assessment. All teenagers were proficient Auslan signers and did not have any intellectual disabilities. The method of assessment was an Auslan translation of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) in conjunction with parent and teacher reports. The researchers found that the Auslan translation of the SDQ is reliable and aligns with what was found using the original English SDQ and tested on a normative hearing population. They also found that the prevalence of mental health issues exceeds that found in the general Australian population, and that parents of deaf children tended to report higher prevalence of mental health issues than teachers or deaf children themselves. However, when deaf teenagers could self-report in Auslan, these self-reports identified higher prevalence than when they completed a written self-report. The researchers concluded that self-report methods may under-estimate the extent of mental health issues, and that Auslan self-reports are essential for deaf teenagers who use Auslan. They also concluded that a range of methods are required for assessing the prevalence of mental health issues experienced by deaf teenagers.

Davidson, Cave, Reedman, Briffa & Dark (2012) summarised the results of a trial of dialectical behavioural therapy (DBT) informed treatment for deaf mental health consumers who use Auslan. DBT is a form of therapy developed by Linehan and is considered to be useful and well-validated for people with borderline personality disorder (BPD) and chronic suicidal ideation. This is because it makes use of validation strategies and develops skills in mindfulness, interpersonal effectiveness, distress tolerance, and emotional regulation. It was developed specifically for people who have experienced invalidating developmental environments. The trial involved adapting DBT materials from written English into Auslan and piloting this treatment with four deaf Auslan signers.

The researchers found that the DBT informed therapy approach was well received by the patients, who reported improved interpersonal skills and emotional regulation. This assessment was also supported by therapists' observations. One patient reported that, *"DBT was useful for me as I learned different skills that I can use to deal with situations calmly and rationally. For example, when I am angry I can stop myself from reacting and go for a walk to calm myself down and use mindfulness to get rid of the negative thoughts."* The researchers concluded that the DBT informed treatment programme is beneficial for deaf Auslan signers, especially in combination with individual narrative therapy, and that other culturally valid and objective measures of skill attainment need to be developed for this demographic. Their work challenges assumptions within the mainstream mental health sector that deaf people experience mental illnesses in the same way as non-deaf people, and that a signed language interpreter is all that is needed to conduct successful treatment programmes.

Ferndale, Bond, Kitchener, Jorm, Dark, Strobridge, Wood, Cave & Cottrill (2021) developed mental health first aid guidelines for deaf people who use Auslan. They used a Delphi expert consensus method involving an expert panel of 24 deaf and hearing mental health professionals, interpreters and academics in Australia and overseas. The statements included for the consensus and ranked over three rounds were developed from a systematic review of the peer-reviewed and grey research literature. This resulted in the development of two sets of guidelines containing 290 statements: (1) considerations for Deaf people providing mental health first aid to a Deaf person with a mental health problem; and (2) considerations for hearing people providing mental health first aid to a Deaf person with a mental health problem. These are the first guidelines developed specifically to assist deaf people experiencing

a mental health crisis that involved deaf people in the research team, working group, and as expert panellists. Both guidelines are available in English and Auslan, and are being used to develop a Mental Health First Aid course on how to provide initial assistance to a Deaf person who is experiencing a mental health problem. The researchers recommended that future mental health resources for deaf signers be created first in Auslan, rather than being based on translations of English statements.

Brown & Cornes (2015) investigated what deaf and hard of hearing teenagers say about their own mental health. They had three aims: (1) establish the overall incidence of deaf and hard of hearing students' self-reports of mental health issues using the YSR questionnaire, including an Auslan translation of the YSR (see Cornes & Brown, 2012); (2) identify the prevalence of narrowband and broadband syndrome scales in this group; and (3) identify any background variables associated with mental health issues. They collected data from 89 deaf and hard of hearing students in Western Australia, New South Wales, and Tasmania. Many variables were considered, including three language categories: Auslan, Signed English and Spoken English. Brown & Cornes reported higher rates of reported mental health issues for students using Signed English and Auslan at home. However, just under one-third of students using Spoken English at home reported issues. The researchers attributed this to the fact that limited Signed English or Auslan usage at home (e.g., from non-fluent caregivers) meant that students were likely limited to conversing about concrete subjects, rather than more abstract and emotional subjects. Overall, the results from this study suggested strong links between social problems, behaviour, communication, and mental health.

Jackson, Caltabiano & Munro (2019) investigated a major limitation of existing signed language translations of clinical assessments of serious mental illness: the presence of systematic error against the language preferences of deaf signing people. This is when responses to clinical assessments are obtained only in written formats, rather than a signed language, often resulting in severe diagnostic and medical errors. For example, it is common for deaf people in need of treatment to be either misdiagnosed or not diagnosed at all (see Black & Glickman, 2006). To mitigate this issue, the researchers examined the psychometric properties of an Auslan translation of both versions of the Kessler Psychological Scales of Distress (K10 and K6). They tested these Auslan versions with 30 deaf signing people (11 male, 19 female, 18-77 years) and found that the K10-Auslan and K6-Auslan tests have acceptable reliability in detecting serious mental illness in signing deaf people. These are the first signed language translations of the K10 and K6 available in the world.

8.5 Interpreting in mental healthcare contexts

There also has been a large amount of research relating specifically to Auslan interpreting in health care contexts. This partly reflects the fact that several interpreter researchers and practitioners have held various academic positions in Australia. Researchers have described the challenges of mental health interpreting when working with deaf patients (Cornes & Napier 2005); the dynamic roles that interpreters undertake when working with healthcare professionals such as therapists (Napier & Cornes 2004; Major & Napier 2019); and how to avoid the risk of vicarious trauma in health care settings (Bontempo & Malcolm 2012). Researchers have examined how non-signing nurses describe health care procedures (Major & Holmes 2008); how to clarify and ensure accuracy of information in these contexts (Major & Napier 2013; Major 2014); and how to use authentic interactions in discourse training for health care interpreters (Major, Napier, & Stubbe 2012). This includes practices of interpreting and knowledge mediation in healthcare settings, i.e., what interpreters mean by 'accuracy' (Major & Napier, 2013). Researchers have also explored how a Medical Signbank may support health care interpreting practices (Napier, Major & Ferrara, 2011). Miletic, Piu, Minas, Stankovska, Stolk & Klimidis (2006) and

Miletic, Minas, Stolk, Gabb, Klimidis, Piu & Stankovska (2006) are two general interpreting resources that may be useful for Auslan interpreters working in mental health settings.

9. LANGUAGE POLICY

The literature on language policy in relation to Auslan includes policy challenges for bilingual and immersion education; the size and health of the deaf signing community and implications; the reasons and strategies for language standardisation, including what has been done and to what effect; and how language policies play out in practice.

9.1 Recognition of Auslan in Australian language policy

Auslan was first recognised as 'Australian Sign Language' and a legitimate language of Australia in 1987 in the 'National Policy on Languages' written by J. Lo Bianco and released by the Hawke Labor Government in 1987 (Lo Bianco, 1987). A green paper 'The Language of Australia: Discussion Paper on an Australian Literacy and Language Policy for the 1990s' was then released in 1990, for development of a more detailed policy (Dawkins, 1990). Following wider community feedback, the Australian Government then released a final white paper, 'Australia's Language: The Australian Language and Literacy Policy' (Dawkins, 1991).

The historical instigation for these developments on language policy was the Labor Government endorsement under Prime Minister Bob Hawke for the National Language Policy (see Lo Bianco, 1990; Lo Bianco & Wickert, 2001). The Labor Government wanted to formalise processes for building a multilingual and multicultural society. They were interested in doing this through economics and the labour market. For example, they thought that addressing 'adult illiteracy' could aid Australia in building a stronger workforce that was better connected within the Asia Pacific region. There was also a drive to recognise the large number of Aboriginal languages used by Indigenous Australians, around

the bicentennial of the British invasion of 1988. These were the two main categories of languages that were addressed in the resulting policy. Community languages such as Auslan were recognised as bona fide languages while also being recognised as much smaller and more niche than other languages such as Mandarin. This is the historical context in which the National Language Policy was developed.

The resulting National Language Policy was seemingly balanced and sensible, but how it was deployed is another question. In 1997, Michael Clyne published a reflection on language policy in Australia, describing the achievements, disappointments, and prospects as he saw them (Clyne, 1997). He saw that lobbies in favour of multilingualism and multiculturalism were successful in raising the status of community languages, insofar as they are now recognised internationally. For example, at the time of his writing, up to 38 languages including Auslan were offered as Year 12 examination subjects, and language maintenance efforts had become more mainstream than previously. However, Clyne felt that one mistake was to make the Minister for Education responsible for language policy. This meant that language policy was driven much more by educational goals than it might have been, and also meant that some multilingualism-focused services (such as SBS and interpreting services) were treated separately when they could have been treated together. A merging of the portfolios of Education and Employment and Training in the 1990s also led to greater emphasis on short-term economic goals, such as labour market needs, rather than long-term goals, such as social cohesion (Clyne, 1997).

In the early 1990s, using a community survey method, Hyde & Power (1992) determined there were over 15,000 deaf signers of Auslan in Australia, most of whom use Auslan everyday with deaf and hearing people. They also identified high levels of unemployment and underemployment across this group. Almost fifteen years later, Johnston (2006) used statistical and census methods to determine that the number of profoundly deaf signers who learned Auslan from their caregivers was likely much smaller, around 6,500. This had implications for assessing the level of language endangerment risk for Auslan, since language vitality and maintenance typically depends on there being a core demographic of deaf people who have experienced uninterrupted, intergenerational language transmission from birth. This is not to dismiss the fact that there are other types of signers who are different yet also important for deaf signing communities. Yet as Johnston (2006) argued, these facts of community size and transmission means that Auslan will inevitably become smaller and face an eventual decline. Other researchers, including Merv Hyde, Des Power and Breda Carty, responded to this article with different arguments, but all agreed that the rates of deaf people being born are declining, and so the core demographic of native Auslan signers will become smaller.

9.2 Policy challenges for bilingual and immersion education

A major challenge for language policy is how it applies to the education sector. De Courcy (2005) investigated the policy challenges for bilingual and immersion education in Australia, outlining and comparing the literacy and language choices available for users of Aboriginal languages in the Northern Territory, Auslan, and Italian. She described what happened with one Auslan/English bilingual programme that ran from the late 1990s into the early 2000s, drawing on an evaluation of this programme in an unpublished report by Blanksby & Pardo (1999). This evaluation found that the bilingual programme was beneficial for the deaf and hearing students in three main ways: social justice, social interaction, and educational outcomes (Blanksby & Pardo, 1999: 27). The main concerns revolved around a lack of Auslan proficiencies for staff with teacher training, a lack of teacher training for staff with Auslan proficiencies, and a lack of resources necessary for curriculum development. Teaching staff were also subject to burn out and few possibilities for career advancement.

Sadly, this programme closed a few years later due to concerns about deaf children being socialised with the same group of children throughout all their school years, and to accommodate parental requests regarding the teachers and children they wanted their child to be educated with. Ironically, it was exactly this model which enabled hearing children to become proficient signers and the deaf children to establish a much wider friendship group than was otherwise possible under educational models such as oralism. De Courcy (2005) ended by stressing the importance of language proficiency for teachers and staff in bilingual programmes: they must be able to use the language on an everyday basis and sign comfortably, including knowing how to communicate with deaf children and all the colloquialisms they develop and use. She also emphasised that language teachers need to be trained in primary education, since most of them are trained for secondary education programmes. De Courcy (2005) supports Johnston (2004) regarding what is needed to offer successful bilingual immersion education models in Australia.

9.3 Issues in signed language standardisation

Another major challenge for language policy relates to the sheer diversity of deaf people's communication practices, including Auslan and other signed languages. Adam (2015) discussed issues around the standardisation of signed languages, particularly when these language planning efforts have been led by hearing professionals such as teachers of the deaf, but also when they have been led by deaf people and communities. He analysed language planning activities in Australia, Japan, Kenya, The Netherlands, in comparison with the unification of Arab signed languages, to demonstrate how signed language standardisation efforts play out in different regions and sociohistorical contexts. In his conclusion, Adam seeks greater interrogation for what standardisation means in terms of language ownership, in terms of "who is directing the standardisation and whether the ownership of the language in question has actually been taken into account throughout the process" (Adam, 2015: 443).

Hodge & Goswell (2021) also addressed signed language variation across deaf communities in Australia, but in relation to the production and comprehension of English-into-Auslan translations. Signed language translations are purportedly a vital resource for information dissemination, yet the quality of Auslan translations is often poor and incomprehensible to many deaf signers. Hodge & Goswell (2021) described signed language variation according to family background, education, and multilingualism in much more detail than previously. They proposed that rather than ideologies of bilingualism, which posit deaf signers as either "bilingual" or "monolingual", it may be more accurate to use the concept of semiotic and linguistic repertoires for describing what different deaf people do in practice. They also suggest that signed communication practices are often shaped by a nascency principle: "the perpetual redevelopment of new forms of expression for understanding the specific discourse and spatiotemporal context, by and for the signers who are physically present" (Hodge & Goswell, 2021: 1). For example, when new sign forms or phrasing must be developed to describe and talk about a novel concept in a specific context. This affects possibilities for language planning and language standardisation in general.

10. KNOWLEDGE GAPS

This desktop review constitutes a summary of the published literature relating to deaf Auslan signers in education, employment, healthcare and language policy in Australia. The next steps are to identify current knowledge gaps and identify mechanisms for change.

10.1 First Nations deaf signers

First Nations languages are essential for deaf First Nations children's wellbeing and connection to their communities. Yet we are still lacking awareness of how deaf First Nations people use Auslan and their preferences for other signed and spoken languages, when and why different languages may be preferred, and other factors influencing First Nations peoples' communicative choices. Relevant to this is First Nations people's experiences of deafness, including experiences of being unaware they have a hearing loss, and how these intersect with other people's ideologies and attitudes, including racism. It is essential for deaf First Nations people to design, lead and conduct their own research and community projects, and avoid reproducing existing settler models of engagement that are grounded in missionary ideologies.

10.2 Deaf signers from migrant family backgrounds

There is limited literature on the demographics, language choices and barriers experienced by deaf people from migrant family backgrounds, including refugees. Only one deaf researcher from a migrant

family background has been able to publish literature on their insider experiences. These specifically relate to the experiences of Australian Lebanese Muslim women with hearing loss (Wehbe, 2019).

10.3 LGBTQIA+ deaf signers

There is no research focusing specifically on deaf, deafblind and hard of hearing signers who identify as LGBTQIA+, with the only research involving this demographic relating to lack of access to healthcare.

10.4 Deafblind, deaf disabled, and neurodivergent signers

While there is a substantial literature on deafblind experiences and communication practices, this has been wholly led and developed by hearing, sighted people, including hearing people who work as deafblind interpreters. There is no literature relating to deaf disabled and deaf neurodivergent people's experiences in relation to Auslan.

10.5 Education

The literature relating to deaf education in Australia is not as extensive as in other developed countries, especially the United States. It addresses the politics of Auslan in education, deaf literacy development, bilingualism and signed language learning opportunities for deaf children and their caregivers, educational interpreting, cochlear implants and deaf children's communication, classroom interactions, the impact of newborn hearing screening programmes, theory of mind in deaf children, and attitudes towards deaf people and signed languages. A striking feature is the heavy focus on Victoria and Queensland compared to the other states and territories. One risk of this is overgeneralisation of state-specific issues to national issues, especially since education is funded by State governments rather than federally.

The literature generally supports the view that deaf education in Australia remains dominated by hearing educators who construct deaf people as disabled or deficient (see Komesaroff, 2008). With few exceptions, deaf education is not designed in the best interests of deaf children. It is designed in the best interests of hearing educators, education bureaucracies, and the harmful ideologies in which these systems relate to and teach deaf children. Even individual hearing educators who attempt to depart from this tradition find it impossible to function within such a system, let alone deaf educators trying their best within the system. Questions remain about so-called 'bilingual' and/or 'inclusive' settings and how suitable they are for signing deaf children. Nothing is known about deaf children's experiences of remote education, except for what hearing Visiting Teachers of the Deaf report themselves, which is not a sufficient evidence base. We would never rely solely on individual medical professionals to self-regulate and reflect on their professional practices. There is also no research on homeschooling or similar practices for deaf families or families with deaf children who may choose to educate their child in their signed language-rich environment at home, rather than risk them receiving a mediocre education in the public system.

There needs to be more research on successful co-enrollment programs in Australian primary and high school environments, such as Toowong Primary School in Queensland and Shenton College in Western Australia, showing the benefits of direct communication and signed education, rather than mainstreaming via deaf units and reliance on unqualified educational interpreters. Recentring deaf ontologies and expertise would be effective in challenging these oppressions. For example, more in-

class observation of teachers of the deaf by deaf educators and other deaf experts who can pinpoint and explain where they are missing vital cues in their interactions with deaf children.

Deaf-led theories and applications of deaf literacy development remain under-developed and under-used in Australia. Large gaps remain in tools and models for assessing signed language development, since most deaf-specific and signed language assessments are adapted from hearing models. Documentation of the writing strategies co-developed by deaf and deafblind university and TAFE students needs more attention. Research on effective signed language learning for caregivers and family members of deaf children is missing, especially in the current NDIS environment that does not support immersion opportunities for families with deaf children. More research is needed on deaf children's communication practices, such as when and why they switch modes or languages, especially in rich multilingual family environments. For example, the experiences of deaf children and adults from migrant backgrounds, in relation to learning Auslan, English, and their family heritage languages. There is also no research on the educational experiences of deaf children and adults who arrive in Australia as refugees, such as their Auslan and English learning trajectories. Deaf children who arrive as refugees are not screened for hearing loss on arrival, and the fractured service provision landscape is difficult for families to navigate, especially as it focuses on the NDIS model which they are not eligible for.

Relating to documentation and professionalisation of local expertise, there is no research into deaf Teachers of the Deaf, deaf caregivers, deaf Auslan Language Models and Teacher's Assistants experiences, skills, observations and knowledge. There is a need to understand and make explicit the differences in outcomes from Visiting Teachers of the Deaf versus in-house Teachers of the Deaf, and deaf Teachers of the Deaf versus hearing Teachers of the Deaf. This includes deaf educators' experiences of workplace discrimination in deaf education contexts, and the systemic lack of value and respect afforded to their skills and expertise. It also includes deaf parents of deaf children, since they are able to draw on intergenerational and intersectional experiences and knowledge of what works and what does not. There is also a need to investigate further the role and impact of professional advice in shaping the decisions made by culturally and linguistically diverse families with deaf children, especially since the dominant paradigms of cochlear implantation procedures and other research is heavily biased towards middle-class, Anglo-heritage children who speak English. These paradigms may not be effective for migrant background families who speak other languages.

This is a significant risk of the NDIS creating further gaps on the basis of one's geographical location, due to poor service provision across regional, rural and remote Australia. Recent reports of systematic issues and errors with cochlear implant services, including incorrect cochlear implant mapping and a lack of informed consent for children and families, are deeply concerning. There is no research on the outcomes of cochlear implants for children with existing language delay, children who have cochlear implants but do not benefit from them, and the role of cochlear implants for children from families who speak languages other than English. We do not know what is happening with these children in social and medical contexts. Related to this are attitudes of hearing staff and professionals towards deaf people, especially towards deaf Aboriginal children and their racialised experiences of deafness. All within a context of national shortages in qualified educators and staff.

There is a need to interrogate the roles and effectiveness of educational interpreters within inclusion models. This includes clearer role delineation, training for educational interpreters, and advocacy efforts for educational interpreters to be qualified, accountable, and regulated, as with any other profession. There is a need for better career pathways and professional development for educational interpreters. Understanding the political history of Auslan in education, and how various advocacy and discrimination legal cases have played out in the course, is vital to avoid falling into the same traps

as in the past, such as historical cases where expert evidence was dismissed as 'advocacy'. Research on caregiver's perspectives of learning and using Auslan may be important advocacy tools, since they have witnessed firsthand the benefits of Auslan and comparisons with damaging professional advice. The gaps in education research are symptomatic of the broader issue of unacknowledged diversity and intersectionalities of deaf communities in Australia.

10.6 Employment

The literature relating to employment focuses on existing employment outcomes for deaf signing people, career pathways for deaf youth from vocational education training to employment, and deaf people's experiences in the workforce. Large gaps remain in understanding and capitalising on employment opportunities for deaf people who use Auslan, especially older people, particularly to boost income earning and superannuation investments. The main challenges remain with transitioning from school to work to retirement, the prevalence of unemployment, underemployment, and the consequent pay and superannuation gaps. Workers experiencing discrimination require better recourse for addressing their concerns. Currently workers are typically forced to activate the DDA in the Federal Court, but this is too risky and costly for most people.

10.7 Healthcare

This literature relates to primary healthcare (including access to information, language planning and aged care) and mental healthcare (including translating and testing Auslan versions of existing psychiatric assessments). There has been a strong focus on researching language barriers to healthcare, specifically English literacy, so reproducing this type of research would be repetitive and redundant if it does not also explore challenges and solutions in novel ways, especially since we are more aware now of possible mechanisms to improve this situation. Health as a concept, including primary health, mental health, sexual health and health related to alcohol and drug use, remains poorly understood by many deaf people, and these issues are worsening in the post-COVID era. This may be mitigated by national healthcare education programmes specifically targeting deaf, deafblind and hard of hearing Auslan signers. Furthermore, language planning efforts to address English and Auslan literacy gaps for both deaf people and interpreters, such as Medical Signbank, have not really been successful. While hearing healthcare professionals can acknowledge that healthcare for deaf people is not good enough, they have also been found to be unwilling to entertain the idea that deaf people can be health professionals too. This is an example of systemic and individual audism preventing self-determination of deaf people and deaf professionals in healthcare contexts, for which more direct education and interpersonal solutions may be useful.

Interpreting services in mental health contexts remain dangerous for deaf people, especially during crisis and intake assessments. There is certainly a need for more research on interpreting in healthcare contexts, but this should primarily centre deaf people's experiences of interpreted interactions, rather than focusing solely on interpreters' experiences, such as vicarious trauma. Once deaf people have been centred in research going forward, some of the issues addressed in the interpreting research domain will likely resolve as a consequence. In other words, some of the issues faced by interpreters exist simply because they have been incorrectly centred in research projects striving to address a problem experienced by deaf people. There is also a need for health-specific training for interpreters and health professionals, especially GPs and nurses, working in primary and mental healthcare contexts. Lack of awareness amongst healthcare professionals continues to contribute to healthcare disparities between deaf people and the general population. For example, there is almost no research

on the experiences of deaf people who are LGBTIQ+ in relation to healthcare. There is no research on deaf people's experiences of aged care, surgery, birth, early childhood services, dentistry and other allied health providers. There is also no research specifically for deaf people with acquired brain injuries, or people who have become deaf at any age through accident or illness. There is a need for better GP services, and better in-person and peer support services, especially relating to mental healthcare and suicide prevention.

Deaf people are understandably fearful of being misunderstood and wrongly sectioned in mental healthcare contexts. This does happen, especially to deaf and disabled Aboriginal men, who also experience the highest rates of incarceration in Australia. Deaf First Nations and other minoritised deaf people suffer from both lack of deaf understanding and a lack of cultural understanding from healthcare professionals and service providers, along with general physical barriers such as remote locations with no services available. For example, there has been no research on targeting social determinants of otitis media in First Nations deaf children. The focus remains on preventive treatments such as vaccines, which does nothing about the major causes of otitis media, such as poor conditions and over-crowded housing, lack of access to water and other basic human needs. Deaf signers with additional disabilities or language deprivation are also consistently excluded from development of mental health assessments, even though they may be more likely to present in mental health contexts due to harms resulting from lifelong experiences of being denied access to language and other human rights.

The majority of mental healthcare research relating to deaf people and Auslan has focused on translating various psychiatric assessment tools developed for hearing people into Auslan for deaf people, such as the YSR task. Such tools have been essential for identifying that deaf teenagers at high risk of poor mental health outcomes compared to their hearing peers, based on both parent and self report scales. In general, there is higher self-report of mental health conditions such as depression and anxiety when this is done in Auslan, not written English. While various therapeutic models have been developed for deaf people, it is not clear how widely these are known, used or evaluated in mental healthcare contexts. New mental health guidelines will also require ongoing evaluation, especially for crisis contexts. Overall, there is an urgent need to focus on mental health research that privileges the lived experiences of deaf people, and the development of therapeutic models by deaf mental health experts tailored specifically for deaf people.

10.8 Language policy

This literature ranges from policy challenges for bilingual and immersion education, to the size and health of the deaf signing community and implications, reasons and strategies for language standardisation and what has been done here and to what effect, and how language policies play out in practice. Even though Auslan was formally recognised in 1987 – almost forty years ago – there remains an urgent need to prevent language deprivation in deaf children who have no access to signed languages such as Auslan, and to support the many programmes and policies required to mitigate the cumulative impact of decades of poor education outcomes for deaf Australians.

There is now much greater recognition that there is not a single Deaf community united in use of Auslan, but rather there is a broad collective of many different Deaf communities who use Auslan in different ways. The priorities of different community groups may overlap, or they may be different, especially in the intersections of heritage cultures and religion. Auslan endures within an extremely hostile mainstream environment, and this is more intense for people who live at the intersection of multiple oppressions in addition to audism. This is why it is important to develop a nuanced

understanding of the languages preferred and desired by First Nations deaf people, deaf people from other culturally and linguistically diverse backgrounds, deafblind, deaf disabled and neurodivergent deaf people. Greater attention to these people will further illuminate the diversity of Auslan use in Australia, while promoting collective ownership of Auslan as residing with all deaf people. There remains a pressing need to protect Auslan and deaf Auslan signers from appropriation and misuse by some educators, interpreters, speech pathologists, and opportunists.

Bilingual and bicultural models remain the best option for deaf children's education, but huge barriers remain for implementing these models in each state. The main challenges include teacher shortages, lack of teacher training opportunities, lack of respect for deaf educators and deaf ontologies, lack of differentiation between parental advocacy and parental interference, and few possibilities for career advancement for deaf educators in particular. There is a growing need to properly recognise non-academic expertise and local deaf epistemologies, especially as the only way to avoid continuously reinventing the wheel with respect to social equity and other issues affecting deaf signing people. This includes addressing social equities within research, such as more opportunities for deaf First Nations researchers, deaf researchers, and deaf practitioner researchers, and to move away from hearing-centric research practices, while developing research methods that are both sustainable and accountable to deaf people and communities and our collective interests.

11. MECHANISMS FOR CHANGE

It is important to remember that any given mechanism can work for or against us. This is a historical fact. For example, Carty (2018) noted that the gains made by deaf groups in one state in the 1930s disappeared due to a systemic change in that state's charity law which allowed registration of only one deaf organisation for that state. Since Australia remains a federated nation with five states and two territories, there will always be tensions between the three levels of Government (local, state, and federal) in terms of where they align and conflict. It is not simply a matter of determining whether top-down or bottom-up approaches are needed. Efforts will be necessary in all directions, from individuals to large businesses and service providers. This document focuses on key mechanisms for change at the systemic level. Proposed mechanisms include:

1. Rethinking the overt expression of self-determination by collectively discussing, deciding and declaring our research priorities across all domains. There are several key messages that have been repeated for generations (e.g., bilingualism, Milan, etc) but very little change is occurring and harmful cycles continue. We need to rethink how and where to do this in light of this desktop review, other related outputs, including deaf-centred research worldwide.
2. Official representation in University ethics and scientific peer-reviewed research committees, such as the Australian Research Council (ARC) and National Health and Medical Research Council (NHMRC). This would enable us to assert deaf people's human rights in relation to what research gets funded, and have some say in the direction of research priorities, including intervention in hearing-centred projects that affect deaf people's lives.

3. Official representation in Government agencies and committees relating to deaf people who use Auslan, including the NDIA, Centrelink, Department of Health, and Department of Education.
4. Greater accountability and greater consequences for discrimination in education, employment, healthcare, and language policy. Currently deaf people are referred to domain-specific punitive mechanisms such as the Courts, Fair Work Commission, and so on. Establishment of an official complaint body with teeth that can function across several domains including education and interpreting.
5. Evaluation of effectiveness of the DDA in relation to deaf signing people and reform to better align with deaf and deafblind people's human rights.
6. Evaluation and reform of the deaf education sector in relation to training, education, payment, professionalisation, career development, and deaf expertise.
7. Evaluation and reform of the Auslan interpreting industry in relation to training, education, payment, professionalisation, career development, and deaf expertise.
8. Annual roundtable of all Deaf community stakeholders to discuss, reflect and determine advocacy and science priorities in alignment with what is collectively needed.

12. CONCLUSION

This desktop review has highlighted persistent issues and barriers to deaf, deafblind and hard of hearing signing people's efforts for self-determination in Australia. These include the ongoing pathologisation of deafness by education and health professionals, which effectively infantilises deaf children and adults, coupled with systemic denial of access to language and communication. The effects of these issues on individual deaf people are intersectional and lifelong, with education, employment and healthcare outcomes also depending on whether a person also experiences other oppressions in addition to audism in various contexts. The main outcome is that deaf people and communities are forced to perpetually explain our existence and fight for basic rights in a cyclical pattern, rather than continuous, linear progress.

The first step was to review the research literature and assess progress and direction to date. This has enabled us to understand the research that has been done in Australia so far, and to summarise the persistent issues and knowledge gaps at a systemic level. In order to advocate more effectively, we also require sensitive, person-centred understandings of the access and inclusion experiences of a wide range of deaf people who use Auslan, including deaf First Nations people, deaf people from culturally and linguistically diverse backgrounds, deafblind, deaf disabled, deaf neurodivergent, and many other minoritised deaf signers. This will enable us to identify the resourceful and creative strategies developed by deaf signing people on the ground, so they can be shared and implemented across deaf communities. This is the focus of the next two documents, the quantitative analysis of the 2022 Deaf Census, and qualitative analysis of interviews with approximately 30 deaf, deafblind and hard of hearing Auslan signers.

ACKNOWLEDGMENTS

This project was funded by an Information Linkages and Capacity Building (ILC) grant to Deaf Australia from the Australian Government Department of Social Services (Grant No. 4-G16F392). Grateful thanks to Jen Blyth, Darlene Thornton and the anonymous peer reviewer for their comments on earlier versions of this document. Any errors or misinterpretations remain my own.

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