

Improving Health and Education Outcomes for Children in Remote Communities

A cross-sector and developmental evaluation approach

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List of abbreviations used

AHOBSP: Allied Health in
Outback Schools Program
BHAECG: Broken Hill Aboriginal
Education Consultative Group
BHUDRH: Broken Hill University
Department of Rural Health, The
University of Sydney
FWLHD: Far West Local Health
District
FVN NSW DEC: Far West
Network of the NSW Department
of Education and Communities

Early childhood is one of the most influential developmental life stages. Attainments at this stage will have implications for the quality of life children experience as they transition to adulthood (COAG 2009; COSDH 2007; Maggi et al. 2005). Children residing in remote Australia are exposed to disadvantages that can contribute to developmental delays and resultant poorer education and health outcomes. Remoteness is defined in the Australian context by geographical location through the Australian Standard Geographical Classification — Remoteness Areas (ASGC-RA). Communities in far west NSW are identified as RA3 — outer regional, RA4 — remote, and RA5 — very remote (ABS 2013). In addition, remote locations have been identified as sharing common characteristics that include higher levels of health risk and disease burdens, limited access to health services, health workforce shortages and socio-economic disadvantage (McGrail & Humphreys 2009).

A number of these characteristics are evident in far west New South Wales (NSW) communities and have contributed to children with speech and motor skill delays experiencing no to limited access to allied health services for a number of decades. More recently, growing awareness that no single policy, government agency, or program could effectively respond to these complexities or ensure appropriate allied health service access for children in these communities led to the development of a new model and approach to providing essential health services that were aligned to community need.

The Allied Health in Outback Schools Program (AHOBSP) commenced in 2009 and was first described in the literature in 2010 as a peer-reviewed conference paper (Jones et al. 2010). At this time, the program was known as the Allied Health Student-Run Clinic Initiative. The concepts of community first (Carney & Hackett 2008), shared governance (Jackson et al. 2008) and student-run clinics (Moskowitz et al. 2006) were core features. The initiative was underpinned by the establishment of cross-sector partnerships and a shared aspirational aim that sought to improve the developmental outcomes of children in the region and so enhance

their later life opportunities. Initial partner organisations included the Far West Local Health District (FWLHD) of the NSW Ministry of Health and the Far West Network (FWN) of the NSW Department of Education and Communities (NSW DEC), state-funded entities with direct health service and school education roles within the public sector, the Broken Hill Aboriginal Education Consultative Group (BHAECG), and the Broken Hill University Department of Rural Health (BHUDRH), The University of Sydney, a federally funded department with carriage of health professional education and coordination of pre-registration clinical fieldwork experiences in far west NSW. The BHUDRH drew on established relationships at the local level and its organisational relationship with The University of Sydney to actively engage cross-sector representatives from health, school education and higher education sectors, including representatives from the University's Faculty of Health Sciences who had carriage of allied health pre-registration education. It was identified early that the initiative had the potential to deliver beneficial outcomes for communities and partner organisations. These included improved access to allied health services; enhanced developmental, education and social outcomes for primary school aged children; expanded remote health placement capacity; and education and primary health care practice opportunities for pre-registration allied health students.

Although not explicit in the early stages of program evolution, a developmental evaluation approach was adopted. Local partners with longstanding relationships, experiences and networks within the region were aware of the challenging dynamics and realities associated with developing innovative projects to address complex and protracted health service inequities. And external representatives from the Faculty of Health Sciences were aware of the additional complexities associated with ensuring quality educational and practice experiences for their students within an emerging service-learning pedagogy being developed and delivered in remote Australia.

Over the last five years the model has been the catalyst for partnership consolidation, expansion and diversification, while model adaptation and refinement experiences have provided valuable insights that have informed health and education policy and enabled the model to be responsive to changing community needs, emerging policy and funding reforms.

This article describes the local need that drove model development, key partner organisations and their roles, and the processes associated with the establishment of cross-sector collaborations. Model characteristics, outcomes to date, contributions to expanding value-adding opportunities within the school setting and scalability of the model are also discussed. In addition, the article explores the challenges and implications associated with the development of a new approach to health service delivery, health workforce development, program evaluation and research. The authors propose that a community-

centred developmental evaluation approach to service innovation in remote locations is required. Contemporary logic-based policy development and funding allocations, with fixed interventions and predetermined program deliverables and outcomes, are no longer capable of responding to the complexity experienced by remote Australian communities.

THE NEED

International and national literature identifies the need to provide young children with the best possible start in life to ensure they achieve their optimal potential and are able to contribute meaningfully to society (COAG 2009; Maggi et al. 2005). Timely and appropriate access to services that identify and address developmental delays earlier in life help to prevent later life disadvantage and higher cost burdens of curative interventions (Baum et al. 2009).

Young children residing in remote Australian communities are exposed to socioeconomic disadvantage that can contribute to developmental delays and diminished life outcomes (AIHW 2008), including socioeconomic disadvantage (Simon et al. 2013), poorer health (AIHW 2008) and lower educational attainment (ABS 2008). For many families, this lived disadvantage is an intergenerational experience (McLachlan, Gilfillan & Gordon 2013). The amplification of this disadvantage for remote Aboriginal populations is well documented (ABS & AIHW 2008).

Children residing in remote areas are likely to experience limited or no access to paediatric allied health services (AHPA 2013; McAllister et al. 2011). The maldistribution of Australia's health workforce (HWA 2011; AIHW 2010), as well as health workforce education and service systems that are focused and funded towards curative models of health service provision (ANPHA 2013), are identified barriers to community orientated care. These barriers hinder the development and implementation of primary health-care models of service provision that are aligned with individual community needs, delivered in accessible community settings, and focused on health promotion and disease prevention (DoHA 2010; Douglas et al. 2009; Wakerman et al. 2009).

There is a growing body of international (Sanger et al. 2001) and national evidence (McAllister et al. 2011; Snow & Powell 2012) that associates later life disadvantage with undiagnosed or untreated speech, language and communication delays in early life. Studies conducted by Snow and Powell (2012) identified that over 50 per cent of male juvenile offenders within a community sample had significant deficits on measures of language and narrative skills and that disengagement from education and social systems had commenced in early schooling. The 2006 International Adult Literacy and Life Skills Survey (ALLS) identified that 40 per cent of employed and 60 per cent of unemployed Australians had

poor or very poor English language and literacy. Improvement in these domains was called for to enhance effective participation in education, the labour force and society (DOI 2010).

Children residing in remote New South Wales have been identified as being at greater risk of developmental vulnerability or delay in two or more of the domains of the Australian Early Development Index (AEDI) on entry into the primary school system (NSW DEC 2013). Children and their families have experienced difficulty accessing allied health services for a number of decades, not least because of the vast distances they need to travel. Far west families with financial capacity travel up to 500 km to larger regional or metropolitan sites to access these services, but this is not normally an option for disadvantaged families. Services, when available through the public health system, can be overwhelmed by extensive waiting lists, whilst recipients of services may experience fragmented and at times duplicated occasions of service. Financial barriers to accessing private allied health professionals exclude a number of socioeconomically disadvantaged families from self-funded service access (AHPA 2013).

Challenges experienced by rural and remote communities in the recruitment and retention of appropriately qualified health professionals are well documented (DoHA 2010; HWA 2010). The lack of health professionals in these regions directly impacts the capacity to provide pre-registration clinical placement experiences, which limits exposure to rural and remote practice and further exacerbates workforce shortages.

In 2008, a delegation of primary school principals approached the Broken Hill University Department of Rural Health (BHUDRH), The University of Sydney, seeking support to address the intergenerational educational and social impacts experienced by pupils in their schools who were unable to access speech pathology services. The cross-cutting nature of this issue and its implications for health service provision, school education, pre-registration allied health student education and community agencies was drawn on by the BHUDRH to bring a diverse range of stakeholders together for initial discussions to identify viable solutions to improving access to paediatric allied health services.

PARTNERSHIP ESTABLISHMENT

Representatives from the FWLHD, including senior management and allied health clinicians, FWN NSW DEC primary school principals and learning support staff, BHUDRH senior management and academics, and representatives from the BHAECG met in early 2009. They explored historical approaches to service delivery and contributing factors to their lack of success in addressing service requirements to ensure past mistakes were not repeated. New alternatives to service provision were also explored. The development of an allied health service-learning model that aligned educational and clinical practice experiences for final-year students with unmet service needs within the region was viewed

as the most viable option for consideration. Access to expertise in the area of pre-registration allied health education and clinical fieldwork was drawn on from representatives of the Faculty of Health Sciences, The University of Sydney. These key stakeholders became the foundational partners for model development and implementation.

Site visits to Broken Hill were undertaken in early 2009 by Faculty representatives who engaged in cross-sector meetings with local partners to progress the development of the model. Once the foundational structure of the model had been decided upon, ongoing involvement from the Faculty was through teleconference. Local partners continued to meet routinely over the coming months to further consolidate the model and identify organisational roles and responsibilities prior to a pilot phase in September 2009.

Partner Roles

The FWLHD committed to provide clinical supervision; FWN NSW DEC principals committed to the provision of a key school contact person, classroom engagement and pupil withdrawal for therapy when required. The BHUDRH committed to placement and program coordination, development of onsite pre-placement education and provision of student accommodation. The BHAECG committed to informing regional Aboriginal organisations of activity and findings from the initiative. The University of Sydney Faculty of Health Sciences committed to the provision of student participants to ensure appropriate student numbers and discipline mix.

No external funding was sourced during the initial development and pilot stages of the initiative. Partner organisations self-funded their own contributions by drawing on existing human resources and infrastructure.

Partnership Development

The partners were aware of the challenges associated with addressing allied health service access and workforce shortages. Evidence of successful approaches to addressing allied health service inequity within remote locations was identified as a gap within the existing literature.

Model development therefore involved an extensive review and sharing of literature by the BHUDRH in the areas of community-campus partnerships (CCPH 2013), service and transformative learning educational pedagogies (Dirkx 1998; Moskowitz et al. 2006), and complex systems theory (Mitchell & Newman 2002). This review informed our approach to partnership establishment and sustainability – power distribution, cross-sector complexities, need for flexibility, sharing of resources, time investments; education – community-centred, supported authentic learning and teamwork opportunities; location of service delivery – community settings in preference to hospitals; and evaluation framework – developmental in preference to formative

and summative. Interpretation and adaptation of the literature to the local context, resources and aims of the model formed the foundation for model implementation.

The adoption of a developmental evaluation framework in preference to traditional formative and summative approaches to model evaluation was considered to be a key contributor to model responsiveness, acceptability and sustainability. Developmental evaluation is suited to social innovation, where there are high levels of uncertainty associated with the actions that are being implemented. This approach supports the development of innovative ideas and visionary interventions, providing a period of exploration and adaptation of emerging models prior to more traditional evaluation approaches being introduced (Patton 2011).

A cross-sector working group was established to work on model design and delivery. Senior leaders from across the partner organisations provided strategic endorsement and support for the initiative. Feedback on model progression was routinely provided by the working group through quarterly written reports to the senior leaders to ensure they were fully informed of developments and had capacity to respond to identified opportunities and challenges.

THE MODEL: DEVELOPMENT AND EVOLUTION 2009–2014

The adopted approach saw cohorts of final-year speech pathology and occupational therapy students from The University of Sydney undertaking their clinical placement experiences in primary school settings in far west NSW across three school terms. Prior to their placement, participating students took part in a discipline-specific, five-day comprehensive preparation for practice program on site in Broken Hill. This was in recognition of the potential challenges students could confront in transitioning from a traditional hospital experience to a remote community-centred primary health care practicum, with an expectation that they would have a leadership role in therapy development and delivery.

The students, under the supervision of qualified discipline-specific clinicians, provided screening, assessment and therapy for children identified with mild to moderate needs. Children identified with complex developmental delays and emotional and social needs were referred to hospital clinicians for more intensive assessment. Supervision in the initial stages of model development was supported by academics and clinicians employed through The University of Sydney and the FWLHD. For more detail on these initial processes, see Jones et al. 2010.

The model currently sees up to six speech pathology and four occupational therapy students undertaking service-learning placements for periods of six to eight weeks across four school terms, three communities and 12 primary school campuses. A total of 24 speech pathology and 16 occupational therapy students are placed annually through the program. Students now participate in an interdisciplinary five-day preparation program prior to

placement. Program content is adapted when necessary based on parent, school, allied health student, clinician and academic feedback to address emerging needs.

Guides have been developed to structure student and supervisor activities within each term. Screening of kindergarten children occurs in Term 2 instead of Term 1, enabling teachers to implement literacy and phonological activities prior to screening, mitigating false positive findings. Student cohorts develop therapy plans and individualised handover documents that identify successful pupil–therapist engagement strategies and assessment outcomes, inform the activities of the next cohort of students, and guide teacher and parental involvement in class- and home-based therapy, which embeds continuity of therapeutic engagement. Student cohorts change across the four school terms, with continuity of therapy delivery and partnership engagement being maintained through the stability of academic staff.

An evolving focus on interprofessional learning and practice between disciplines further aligns the model to contemporary best practice (Thistlethwaite & Moran 2010). Students participate as an interdisciplinary group in elements of screening, assessment, therapy, clinical education sessions and placement debriefs. Therapy delivery is refocusing to reflect ‘responsiveness to intervention’ (RTI) processes through a multi-tiered approach to service delivery, to address the range of needs experienced by children. Therapy delivery includes individual, small group and whole-of-class sessions. Whole-of-class sessions support universal prevention approaches (Fairbanks et al. 2007) and enhance skills transference between teaching staff and allied health students (ASHA 2000; McCormack et al. 2011). Table 1 provides an exemplar overview of allied health student activity undertaken during a typical week of their placement in Term 3.

Supervision approaches now incorporate discipline-specific and multidisciplinary academic and student peer supervision (Kuipers et al. 2013). Teachers provide an additional layer of supervision for classroom activities. Weekly clinical case discussions support the development of critical thinking in students, providing an opportunity to discuss therapeutic approaches and alternative methods of therapy delivery (Facione & Facione 2008). Weekly pastoral care sessions support students in adapting to and understanding practice approaches, their placement communities and socioeconomic contexts.

A recent development for the model has been enhanced service delivery integration with FWLHD allied health clinicians. Clinicians are now referring school-aged children directly into the program and modelling speech, language, communication and motor skills therapy required by these children to the allied health students, further enhancing continuity of therapy. Additionally, health service clinicians are extending their role by retaining case management for children who are jointly engaged with their

	Monday	Tuesday	Wednesday	Thursday	Friday
0800–0900	Arrive at school and prepare for the day	Clinical In-service	Arrive at school and prepare for the day	Planning Day	Arrive at school and prepare for the day
0900–0930	Individual Pupil Therapy Session	Arrive at school and prepare for the day	Class-based Therapy Session		Individual Pupil Therapy Session Peer Supervision
1000–1010	Fruit Break	Screening and Assessment	Individual Pupil Therapy		Individual Pupil Therapy Session
1000–1100	Class-based Therapy Session		Peer Supervision		
1100–1130	Recess	Recess	Recess		Recess
1130–1200	Individual Pupil Therapy Session — Interprofessional Approach	Screening and Assessment	Individual Pupil Therapy Session – Interprofessional Approach		Clinical Case Notes Referrals
1200–1315	Clinical Case Notes Referrals	Screening and Assessment	Class-based Therapy Session		Individual Pupil Therapy Session
1315–1400	Lunch	Lunch	Lunch		Lunch
1400–1600	Clinical Case Notes Referrals	Clinical Case Conference	Clinical Case Notes Referrals		Individual Pupil Therapy Session Clinical Case Notes Referrals

Table 1: Overview of Weekly Student Activity, School Term 3

service and the model. Clinicians meet with academics and allied health students at the beginning and end of each school term to discuss therapy requirements and outcomes.

The ongoing alignment of the model to federal and state policy, funding opportunities and changing community need has contributed significantly to the capacity of the community to address what was considered an intractable inequity in access to services. Senior cross-sector leaders continue to work collaboratively on strategic aspects of the model through promotion and lobbying at the state and federal levels and identification of relevant policy and funding opportunities. As the model has matured and partners have developed clarity of understanding associated with their roles and responsibilities, the activities of the cross-sector working group have been integrated into daily practices. The aspirational aim of the model has not altered; however, program partners have learned that the path that leads to these outcomes can be unclear and divergent, requiring flexibility in responses and long-term commitments to achieve shared outcomes and sustainability (Hamann & Acutt 2003).

Model Characteristics

1. Adaptation

As the model matures, the conceptualisation and re-conceptualisation of the service and educational elements has resulted in the trialling of various approaches to service delivery and allied health student education. Adaptations have been driven by new learnings informed by parents, schools, clinicians, academics and participating allied health students through informal and formal evaluations. How allied health services and broader health and social service access and delivery are

interpreted has become increasingly complex and interconnected across health, education and social domains (McLachlan, Gilfillan & Gordon 2013).

2. Developmental evaluation

Traditional linear, logic-based models (Roorda & Nunns 2009) for addressing complex problems (assessing issues in isolation with a limited set of possible options) have been replaced by developmental evaluation, which acknowledges unpredictable and unplanned phenomena, momentum shifts that can include periods of slow or rapid change, and tipping points associated with policy and funding opportunities and challenges (Patton 2011). This approach has enabled the model to adapt to emergent, complex and at times ill-defined issues across remote health, health workforce, and education policy and funding domains.

3. Credibility and consistency

Remote and Indigenous populations tend to have a healthy level of cynicism towards new programs and their longevity. Our model is concerned about such perceptions of consistency and credibility. However, parents continue to support their child's engagement with student-led services, while teacher engagement within the classroom and with the program continues to strengthen each term that students and academics are present within the school system. Engagement with clinicians employed through the hospital system is consolidating, with a growing sense of service integration, coordination and collaboration. In addition, other universities are seeking access to the model for their students based on student learning, practice outcomes and attainment of work-readiness skills.

4. Commitment

Commitment to the 'long haul' by key stakeholders in the initial stages of model inception was informed by past experiences of short-term funded, externally driven programs that were unsustainable (Osborne, Baum & Brown 2013). A verbal agreement across partners to a minimum seven-year program commitment has enabled partners to respond to a number of crucial factors, including expanding partnerships, funding and policy changes, and value-adding opportunities that may not have emerged within a short-term, prescribed framework.

5. Flexibility

Each school engaged in the program has its own unique approach to service integration, activity, policy interpretation, parental engagement and leadership. School leaders and teaching staff change within school settings, parental engagement across schools can be variable, school priorities and aspirations can and do change, and clinician accessibility can fluctuate. Having capacity to respond quickly to these factors is critical to avoiding poorly aligned approaches and model vulnerability.

6. Trust

The literature and experiences of partners confirm that meaningful partnerships are underpinned by trust (Vangens & Huxham

2003). Trust is not created from top–down directives and cannot be enforced by formal contracts; rather, it develops gradually as working relationships evolve (Nyden et al. 1997). Cross-sector partners need mutual understanding of the individual and shared interests of the partner organisations, as well as faith that the partners will remain in the relationship despite obstacles or challenges that inevitably arise (Enos & Morton 2003). With trust comes a greater capacity for open and honest discussions on how best to progress model evolution and responsiveness (Vangens & Huxham 2003).

7. Cross-sector collaboration

Establishing partnerships across health, school education and higher education sectors is complex. Transitioning the theory of partnerships to the practical application of partnering requires time and resource commitments; individual partners also need to invest time in building their own capacity to work across sectors (BPD 2002). The approach of starting small, achieving and sharing successes and then expanding activity has proven critical as the model has evolved.

Model Outcomes

1. Improved service access

In 2013, academics and allied health students screened 253 kindergarten children (85 per cent of total enrolments in the region), focusing on children with teacher-identified need in the communities of Broken Hill, Menindee and Wilcannia. In total, 12 schools across the region were engaged with the model. Service access results included:

- 71 per cent (n=181) of children screened were identified as requiring support with mild to moderate delays
- 46 per cent of pupils received individual or group therapy sessions
- 31 per cent of pupils received individual therapy
- 47 class-based therapy sessions were delivered.

When requested, academics and allied health students were actively engaged in pre-school settings with children with identified needs. Individual pupils with intense needs can receive up to 20 occasions of allied health service annually. Key areas of identified need for children residing in the region were speech delays, storytelling, pre-literacy, and fine motor skill delays. In 2013, 20 pupils with complex/severe needs were referred to allied health clinicians employed by the FWLHD.

Ten pupils from more remote communities were also referred to FWLHD clinicians, and a further ten pupils were referred to hearing services for additional assessment. Additional challenges exist for more remote families who are required to travel up to 200 km to Broken Hill to access services. Alternative approaches to very remote service delivery are currently under development.

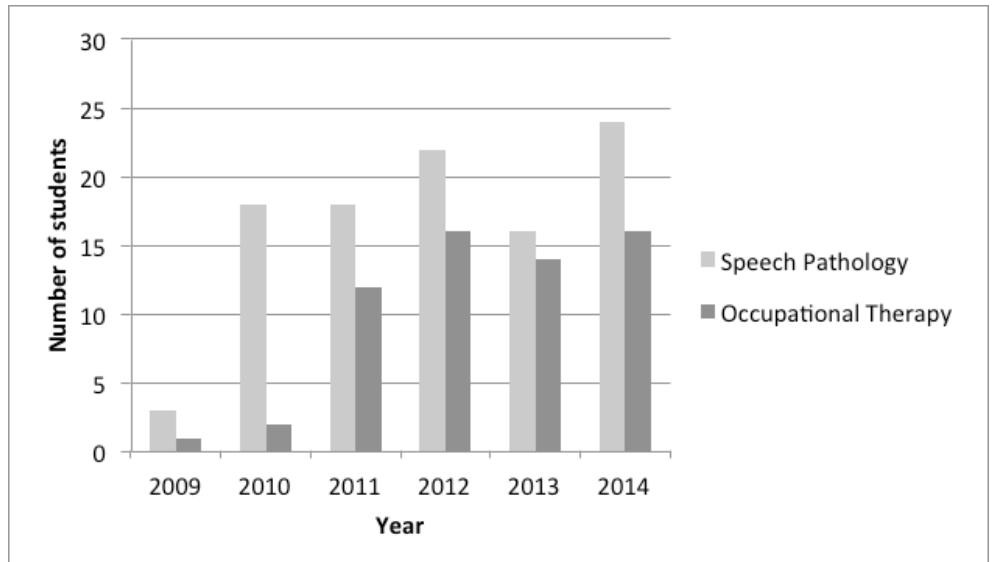
Service acceptability of the model in far west NSW is reflected in the number of regional primary schools engaged in the program (100 per cent) and parental consent rates for participation (95 per cent and higher) annually. Additional research is planned

to explore the impact on developmental attainment for service recipients. It is envisaged that this critical component of the program will be reported on in more detail in subsequent articles.

2. Increased clinical placement capacity

Figure 1 depicts the growth in clinical placement capacity for paediatric practicums as a result of model development from 2009 to 2014. Between 1997 and 2008, there were no paediatric speech

Figure 1: Clinical placement growth – Paediatric Speech Pathology and Occupational Therapy (AHOBSP 2009–2014)



pathology placements, though small numbers of occupational therapy students had access to traditional hospital-based placements. The decline in student capacity in 2013, as shown in Figure 1, reflects a stage of model restructure. The opportunity for further growth in pre-school and social service settings is limited by supervisory capacity and on-site student accommodation availability.

Model Expansion

1. Participating universities

Allied health students from four regional and metropolitan universities are now engaged in the model. This expansion has contributed to:

- cross-university professional networking, team building and collaboration through a shared experience (Thistlethwaite & Moran 2010)
- normalisation of a collegiate approach within the pre-registration education experience
- commitment to guaranteed student numbers and mix of disciplines across all school terms.

University engagement, student participation and academic collaboration in the program are facilitated locally through the BHUDRH to ensure clarity of communication, coordination and integration of activities across university partners.

2. Discipline engagement

Social work and dietetics students have been integrated into the model in response to social and additional health needs identified

by school leaders. Social work students are exploring strategies to engage parents and school communities in education, health and social programs. Dietetic students are working with the schools to explore locally responsive approaches to addressing physical inactivity and poor diet. The parental engagement strategies being identified by the social work students are being drawn on by the speech pathology, occupational therapy and dietetic students to inform their approach to program development, delivery and parental involvement.

3. Staffing and supervision

The BHUDRH and FWLHD conjointly employ academics to enable integrated and consolidated approaches to student supervision, education, program development and service delivery. This approach mitigates supervision and student coordination demands for remote health service clinicians who experience high demands for service delivery and enables greater numbers of students to be engaged in service-learning activities.

Value Adding Initiatives

1. Federal Government Health and Hospital Fund

In 2009, the Australian Government committed \$5 billion to the Health and Hospital Fund (HHF) to invest in major health infrastructure programs. Round 4, 2011, targeted projects aimed at improving access to essential health services for rural and remote Australians (DoHA 2010). A lack of appropriate infrastructure within primary school settings was identified as a barrier to expanding and integrating health, education and social service activity. New infrastructure that supports integrated service delivery through cross-sector collaborations and co-location of staff and activity was identified as a key requirement in supporting the transition of additional services to primary health care approaches in the school setting (DoHA 2010).

The BHUDRH, as lead agency, and partners lodged a submission to establish multipurpose health and wellbeing infrastructure, 'School Health Hubs', directly on six public and one Catholic school education sites in Broken Hill. In 2012, partners were informed that their application for \$4.7 million had been successful. Complex cross-sector funding contracts are in the final stages of completion.

2. Health Workforce Development Funding

In late 2009 and 2010, the BHUDRH applied for funding through the federal government and Health Workforce Australia's (HWA 2010) clinical training fund (CTF) to support the growth of clinical placement capacity in far west NSW for allied health disciplines to expand student engagement within the model. Federal and HWA funding of \$350 000 supported the conjoint appointment of allied health academics. These appointments have been critical in ensuring that the model addresses higher education professional accreditation requirements.

3. NSW Department of Education and Communities Rural and Remote Education Strategy

In 2013, the NSW Department of Education and Communities released the Rural and Remote Education Strategy: A Blueprint for Action (NSW DEC 2013). The Strategy highlighted that disadvantage experienced by rural and remote pupils begins in early childhood. A key area of the Strategy is the establishment of strong relationships between NSW DEC schools, their communities and other agencies. The Strategy referenced the issue of limited or no access to allied health services and the difficulties experienced in linking pupils and families to these professionals as an area for strategic investment (NSW DEC 2013).

The Strategy supports the establishment of a statewide network of Specialist Centres to provide assistance to pupils and families through a single, coordinated local point of contact. These centres will bring together local education, health and social services for two key purposes: (1) to support schools in managing complex cases where students are at risk of disengaging from education as a result of learning, health and wellbeing concerns; and (2) to engage in collective impact approaches to address education, social and health determinants that contribute to disadvantage and poorer life outcomes. Broken Hill was identified as a pilot site for the establishment of a Specialist Centre in 2014, acknowledging the existing cross-sector partnership, Health and Hospital Fund infrastructure and collective action that is already occurring (NSW DEC 2013).

4. NSW Ministry of Health Integrated Care Strategy 2014–2017

The NSW Ministry of Health Integrated Care Strategy (NSW MoH 2014) focuses on providing seamless and effective care that is responsive to the needs of individuals and families. The Strategy aims to develop a system of care and support that provides the right care, in the right place, at the right time. A commitment of \$120 million over four years has been made to develop locally led models of integrated care across the state (NSW MoH 2014).

Partners are working collaboratively with The University of Sydney, Faculty of Nursing and Midwifery (Sydney Nursing School) to develop a submission that will build on existing integrated activity in the school sector. The submission will seek to enhance health promotion activity, improve access to early identification and intervention services, and provide coordinated support for children and families experiencing complex physical and mental health conditions through the establishment of new graduate transition to practice initiative that will see primary health care nursing positions co-located within the School Health Hubs.

Scalability of the Model

The BHUDRH is engaged with academic departments in Geraldton, Western Australia, and Katherine, Northern Territory, on the adaptation and implementation of the model. These communities are drawing on the Broken Hill experience, expertise and networks to develop similar approaches to address areas of unmet health

need. There is an expectation that the models developed will be adapted to respond to local communities.

Additional interest in the model is being expressed by academics working in other Australian University Departments of Rural Health. Academics have visited Broken Hill to gain a greater depth of understanding of how the model was developed, partnership establishment, model structure, and impact on service recipients and participating allied health students.

CHALLENGES AND IMPLICATIONS

1. Policy and funding

There is currently no established range of systematic population health directed programs and funding for the prevention, early detection and intervention for speech and communication deficits (Wylie et al. 2013). Only 1.7 per cent of Australia's total health care budget of approximately \$140 billion is allocated to preventative health programs (ANPHA 2013). There is a growing need to redress this imbalance and lack of continuity across prevention and curative treatment models. The National Health and Medical Research Council (NHMRC) identified the need for a service and funding focus on population groups that have the greatest potential for improved health outcomes, such as children living in poor socioeconomic conditions and Aboriginal populations (NHMRC 2006). The National Public Health Partnership (NPHP) identified that an investment in children from socioeconomically disadvantaged families was likely to have an enormous positive effect on improving the quality of life of children, as well as resulting in far-reaching positive outcomes for the Australian economy (NPHP 2008). However, the inverse care law continues to apply to these populations, where those with greatest need have the least access to services to address their needs (Watt 2002).

The recent focus on the prevalence of speech, language and communication delays and speech pathology services in Australia in the 2014 Senate Inquiry (Parliament of Australia 2013) highlighted the complex challenges associated with service accessibility. Without identified funding to redress service inequity, Australian children, especially those from rural, remote and Indigenous backgrounds, are likely to be subjected to the ongoing later life disadvantage identified within the literature (NPHP 2008).

2. Parental engagement

There are substantial gaps in knowledge of how best to engage with remote and Aboriginal parents to define developmental need and provide health services that are culturally responsive. The role of parents in engaging with therapy planning and delivery influences how successful strategies to address developmental delays will be (Roberts & Kaiser 2011). Parental consent for their child's participation in the model is high within the region; however, engaging directly with parents through individual or open school meetings can prove difficult. The literature identifies a range of

factors that can influence the level of parental engagement, and additional investment is needed in this area to identify acceptable and appropriate approaches (Higgins & Morley 2014).

3. Service-learning as a valid educational pedagogy

Much of the service-learning activity in Australia to date has been heavily informed by international literature and experiences (Jacoby 2010; Moskowitz et al. 2006). Whilst service-learning remains an emerging educational pedagogy for health science students within the Australian context, there has been a growth of service-learning activity over the last five years (Chambers & Lavery 2012). If Australia is to adopt service-learning as a meaningful approach to pre-registration education for future health professionals, then theory development and practice implementation that account for Australia's unique geography and vast population spread, as well as our health and education systems, needs to be at the core of this movement. Robust research that explores the impact of service-learning for service recipients, communities, participating students and higher education institutions is urgently required to identify the efficacy of Australian responsive models.

4. Health workforce development

Recent changes within Australia's health workforce development portfolios, the rationalisation of federal government agencies in 2014 and the integration of HWA into the federal Department of Health have created a level of uncertainty in relation to current and future funding opportunities (CoA 2014). The development and expansion of our model was substantially supported by innovation funds accessed through HWA to appoint clinician/academic staff. Sustainability of the model and sister programs that have been developed may be challenged without secure funding sources.

Access to allied health services for rural and remote populations is dependent on the availability and accessibility of suitably qualified health professionals within these regions (AHPA 2013). Health workforce evidence identifies that students who experience a rewarding and valuable clinical placement in these locations are more likely to consider returning to rural and remote practice post-graduation (Katzenellenbogen et al. 2013).

Students engaged in the model are exposed to primary health care approaches to service delivery and Indigenous and remote health care, broadening their scope of practice and capacity to respond appropriately in these environments. Allied health students contribute to improving the educational, health and social outcomes of children who, due to their socioeconomic status and geographical location, are at greater risk of developmental delays and service access inequity.

5. Higher education

The challenge for higher education institutions is to develop and deliver coursework and clinical fieldwork experiences for health students that align to contemporary remote Australian community

health needs and expectations. Rebalancing the educational disparity between curative and primary health care practice and associated workforce development is essential. The inclusion of primary health care practice in contemporary approaches to speech pathology and occupational therapy education and service delivery is being supported by leading national and international experts. These experts are challenging traditional curative approaches to service delivery, calling for a continuum of care that is responsive to the needs of at-risk and under-served populations (Wiley et al. 2013).

Higher education institutions in the United States have been challenged by community sectors to locate themselves alongside community-focused agencies to contribute meaningfully to resolving complex social, educational and health disparities (Jacoby 2010). There is a clear message in the US that the university sector has a social responsibility mandate. How or if this is interpreted and translated into practice within the Australian context in the current policy and funding environment will impact on the relevance of higher education institutions across the broader Australian population and remote subpopulations.

6. Cross-sector collaborations

The growing collaborative approach across sectors in NSW is being influenced by education and health policy. The NSW DEC Specialist Network Centre initiative and the NSW MoH Integrated Care Strategy provide remote NSW communities with a platform to construct new approaches to working across sectors to address local areas of need. Government agencies promoting these changes have to ensure that remote communities are afforded the flexibility to interpret these policy changes to best align with local needs.

These agencies need to work collaboratively with remote regions to ensure that allocated funding from across a range of health, education and social sectors is spent within these regions to enhance service accessibility. Community engagement and leadership in decision making on how best to utilise allocated funds is essential in aligning services to need and will increase clarity and transparency of resource allocation and expenditure.

EVALUATION AND RESEARCH FRAMEWORK

Developmental evaluation has supported the process of innovation within and across partner organisations. Developmental evaluation informs us that innovations are often in a state of continuous development and adaptation, unfolding in changing and unpredictable environments (Patton 2011). Developmental evaluation assists with clarity on where and why an initiative started, which forks in the road have been taken, what helped inform those decisions and what has been learned along the way. This form of evaluation is an ongoing process, enabling continuous improvement and adaptation.

Developmental evaluation can create challenges for inflexible systems and traditional funding streams. The lack of

definitive answers in the initial stages of program development, higher levels of uncertainty, and long-term processes that may not provide immediate benefits or may have poorly defined start and end points can be difficult for government agencies to comprehend (Patton 2011). In contrast, AHOBSP partners have been able to develop and consolidate activity based on a deeper understanding of the issues and provide strong rationales for why certain approaches or activities have been selected and why other options have been discounted.

Decisions are informed by a number of sources and evaluation processes, including parents, teaching staff, school principals, participating allied health students, the academic partner and clinician feedback. The BHUDRH, as an academic department, works closely with key stakeholders to ensure evaluations are conducted. Evaluation processes for allied health students include mid and end of placement focus groups. Meetings are held with school principals and key teaching and support staff prior to placements commencing each term. These meetings enable school staff to highlight successes, identify concerns and suggest improvements. Parent meetings are scheduled across the school terms to encourage information sharing and to seek parental feedback on the program. External academics provide independent feedback on student experiences and clinical and professional learning outcomes, enhancing the academic robustness of the program.

A comprehensive research framework has been developed to explore program impact on service recipients and the impact on developmental outcomes, families, community partners, participating allied health students and their academic institutions. Funding is currently being sought to progress this research.

The model is the focus of a qualitative PhD study that is exploring the impact of program participation for community leaders – school principals and pre-school managers, senior managers and academics from FWN NSW DEC, the BHUDRH and The University of Sydney, and participating allied health students. Findings from this research will be published in subsequent articles and will assist in refining the broader research agenda.

CONCLUSION

No single policy, government agency or program can effectively respond to the complexities experienced by remote populations or ensure appropriate allied health service access for children in these communities. New models, policy development approaches and funding streams are required to ensure services align with community needs and expectations. As policy and funding reforms across Australian government agencies refocus on improving their responsiveness to local needs and priorities, meaningful community engagement and leadership will have to become a critical component of service planning, implementation and evaluation. Balancing tensions between government requirements and community expectations will prove challenging but is

essential if we are to ensure flexible, responsive and fit-for-purpose services for remote populations.

Developmental evaluation highlights that social change innovation occurs when there are alterations in practice, policies, programs, resource flows and structures at the organisational level (Gamble 2008). The model has influenced allied health education, practice and service access within far west NSW, has been a catalyst for the extension of service-learning activities within the school setting, and has influenced the flow of resources through federal and state health and education systems. The complexity of establishing and sustaining cross-sector partnerships and time and resource contributions of partners to promote model success and sustainability cannot be underestimated. Continually re-conceptualising the issues, solutions, opportunities and partnership approaches has been critical. Committing to the 'long haul' has its challenges but they are far outweighed by the benefits accrued by communities and partner organisations.

Much of the theory and evidence presented in this article will resonate with proponents of remote health, primary health care, community-engaged practice and service-learning. What this article has endeavoured to do is to provide a deeper insight into one remote Australian community's experience in redressing allied health service access inequities through the establishment and consolidation of meaningful cross-sector partnerships over the last half decade.

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