

CHAPTER TWO: LITERATURE REVIEW

Introduction

The aim of the literature review was to identify information available in the public domain in relation to promoting, recruiting, retaining and supporting high school students with an interest in pursuing a professional health-related career. These included programs and strategies addressing the needs of students in the secondary years. The literature was reviewed in relation to the key objectives of the research, which included, identifying the recruitment strategies of Australian medical schools and their achievements in attracting and supporting Indigenous students, the barriers to increasing Indigenous recruitment and enrolment in Australian medical schools and understanding more about the experiences of students with programs and initiatives aimed at facilitating their entry into medicine in particular, but also related health professions. The recently published Australian Indigenous Doctors Association Report (Australian Indigenous Doctors' Association (Minniecon D & Kong K, 2005) which defined best practice in the recruitment and retention of Indigenous medical students, provided an excellent discourse framework and discussion on the recruitment strategies of Australian medical schools. It was not the intention of this project to revisit this question, but rather to understand the relationship between the complex needs of Indigenous secondary school students and the challenges involved for the university sector in ensuring their increased representation and success, particular in relation to health professional careers.

Scope

The literature review considered relevant research, policy and programs published in peer reviewed and non-peer reviewed and grey literature. Analyses of programs and associated methodologies were not undertaken as part of this review. We drew on work conducted between the years 1996 to 2006 and focused our inquiry on the Australian experience. Given that the topic encompassed several broad and complex subject areas it was necessary to draw on information that related to the project's key questions, as well as recently conducted research and national and state reviews of related inquiry. Two recently published national reports of particular

relevance to this project were the Australian Indigenous Doctors' Association Report, *Healthy Futures - Defining best practice in the recruitment and retention of Indigenous medical students*, September 2005, and the Department of Education Science and Training Report, *Indigenous Students' Aspirations: Dreams, perceptions and realities*, published in 2005.

The relevant literature was identified through a database search of Medline, Cinahl, Eric, AMI and APAIS. The last mentioned yielded the most articles, given the policy-based nature of much of the material in this field. A Google search using multiple search terms was also undertaken. The search terms used were the following: aborigin* or Indigenous*; high school* or secondary school*; career*; career promotion* or career support*. Key stakeholders advised the inclusion of relevant reviews and programs. Government departments, professional organisations and non-government organisation websites were searched for relevant research and policy documentation.¹

Research Themes

Seven research themes guided the review and each is subsequently addressed.

- Demographics of the Indigenous population
- The Indigenous workforce
- Indigenous students in the secondary schooling sector
- Indigenous students in the tertiary sector: higher education; vocational education
- Programs in schools addressing health professional career pathways

1. These included:

The Australian Indigenous HealthInfoNet Website

<http://www.healthinfo.net.ecu.edu.au>

Office for Aboriginal and Torres Strait Islander Health (OATSIH)

<http://www.health.gov.au/oatsih/cont.htm>

National Aboriginal Community Controlled Organisation (NACCHO)

<http://www.naccho.org.au/Reports.html>

Partners in a Learning Culture: Access for Indigenous Students to VET in Schools Program

<http://www.curriculum.edu.au/Indigenoucareers/conceptmap.htm>

National Aboriginal and Torres Strait Islander Education Website (NATSIEW)

Teaching and learning of Indigenous learners websites

<http://www.natsiew.nexus.edu.au/lens/teachingandlearning/teachlearn.html>

Aboriginal Careers Aspirations Program

http://www.boardofstudies.nsw.edu.au/aboriginal_research/aboriginal.html



- University-based Programs targeting health professional career promotion in schools for Indigenous students
- Research and Policy developments in Indigenous Education

Literature Review Findings

Demographics of the Indigenous population

The mapping of Indigenous students and Indigenous populations is relevant to an understanding of schooling and careers outcomes. Geographic location is a significant factor relevant to Indigenous participation in education (Hunter B H and Schwab RG, 1998). In NSW, the majority of the Indigenous population is located in urban areas (major cities and country towns) and their immediate surroundings. However, as in all other States and Territories, Indigenous populations are also far more likely to live in all other areas of the State, particularly in remote and very remote regions. There were sixty one discrete Indigenous communities recorded in NSW in 2001, with at least half of these locations having populations of less than 100 people (Taylor J, 2005:18). As noted by the Australian Education Review it is necessary to disaggregate data arising from communities whose daily language is not English, from those communities where English is the daily vernacular, if one is to gain a real understanding of differential educational outcomes (Mellor S and Corrigan M, 2004). Distribution of schools, patterns of attendance at primary and secondary levels and community access to information technology are all highly contingent on the location of Indigenous populations. Biddle and colleagues confirm that those Indigenous people who do enrol in higher education tend to live near universities, most of which are situated in capital cities or regions along the Eastern and South West coasts in the more highly populated regions. However, the authors also note that geographical isolation, while impacting on participation in mainstream education, is not the most significant variable predicting participation of Indigenous students at university level (Biddle N et al., 2004).

The younger age structure of the Indigenous population in Australia has particular resonance for schooling and the vocational education and tertiary

sectors. In NSW for example, estimated increases in the Indigenous population, projected to be an increase of almost 14 % by 2009, indicates that most of this growth will occur in the younger adult age group in the transition years from school to work (Taylor J, 2005).

The Indigenous Medical Workforce

The Australian Medical Association has estimated the shortfall of medical professionals providing services to Indigenous people at 430 FTE medical practitioners, with the shortfall in access to primary health care at 250 FTE medical practitioners (Australian Medical Association, 2004b). Further, a gap of 928 doctors has been estimated as necessary to increase the proportion of Indigenous people working as health professionals to non-Indigenous levels, with an additional 2000 Aboriginal health workers also required (Australian Medical Association, 2004a). Indigenous doctors account for 0.18% of the medical profession, despite 2.4% of the Australian population being Indigenous. Indigenous medical students make up about 1.1% of the medical student population (Australian Indigenous Doctors' Association (Minniecon D & Kong K, 2005). These shortages underscore the need to promote and target, in particular, health and medical careers to Indigenous and rural high school students.

Durey and colleagues addressed the needs of rural and remote area students for information about health careers. Their research highlighted that 19.2% of Australian university students came from rural and remote areas, although 28.8% of the population lives in rural areas (Durey A et al., 2003). As with studies elsewhere (Alexander C and Fraser J, 2001), Durey's research found that choices to follow a health career at the tertiary level were limited by structural and cultural issues including:

geographic isolation, financial costs, stereotyping of health professions, insufficient information about the diversity of health careers, obligation to family, community and place, prejudice and a 'devalued' rural culture (Durey A et al., 2003).

Their statewide consultation with high school students also highlighted the often negative self-perception of academic ability found equally

amongst students and the wider community. As the authors note:

We need to talk the whole culture up so kids believe they can achieve excellent results and can get into these elite professions (Durey A et al., 2003:148).

Other studies have highlighted the role that careers advisors often play in discouraging Indigenous students into careers in higher education, and medicine more specifically, and attempts to divert them into vocational education streams (Craven R et al., 2005).

Durey and colleagues in West Australia stressed the importance for high school students of interactions between health professionals and university students as an effective way to deliver information about health careers (Durey A et al., 2003). This echoes Alexander and Fraser's study of high school careers advisers in the New England Health Area, which found that the overwhelming majority of careers advisers suggested strategies such as arranging visits by locally-practicing health professionals or by undergraduate students enrolled in tertiary health courses, as well as such strategies as offering a mentor to interested high school students (Alexander C and Fraser J, 2001). Research by Heaney into health careers and rural students has identified the need to motivate, identify and foster students' interest in health and other higher education careers early in the high school experience (Heaney S, 1998).

Craven and colleagues identified the central role that teachers have in the career processes and aspirations of the Indigenous student. The overall picture concerning careers advice is that teachers and other key schools staff need to have raised expectations of students and that the curriculum, nature of the advice and pathways for Indigenous students need to be proactively addressed and offered earlier in secondary school (Craven R et al., 2005:136).

Indigenous students in the secondary schooling sector

Hunter and Schwab report some absolute improvements in Indigenous educational outcomes in the period between 1986 to 2001, noting, however, that any gains by Indigenous students are less evident than those of non-Indigenous, including the proportion of the population with post-secondary

qualifications and the proportion of Indigenous teenagers staying at school (Hunter B H and Schwab R G, 2003).

Several commentators have identified the critical markers leading to differential outcomes in Indigenous and non-Indigenous education (Schwab R G and Sutherland D, 2001, Taylor J, 2005). In addition to the social determinants that influence schooling outcomes, there are vastly different patterns of enrolment in public-private schools for Indigenous and non-Indigenous school students (Biddle N et al., 2004).

Malin and Maidment provide estimates of the gap between Indigenous and non-Indigenous student outcomes. Table 1 demonstrates that in every aspect studied Indigenous students were disadvantaged.

Table 1: Gaps between Indigenous and non-Indigenous student outcomes

Aspect of Schooling	Indigenous	Non-Indigenous	Gap
3-4 yr old enrolment at pre-school	48%	57%	9%
Attendance rates primary and secondary School	87%	95%	8%
Meeting Yr 3 literacy and numeracy benchmarks	75%	93%	18%
Meeting Yr 5 literacy and numeracy benchmarks	62%	89%	27%
Year 10-12 apparent retention rate	44%	76%	32%
Achieved tertiary entrance score	19%	53%	34%

Source: Malin M and Maidment D, 2003:90, Table 3

The 2001 Census reported that around 32% of Indigenous people, compared with 18% of non-Indigenous people did not complete Year 10 (Australian Bureau of Statistics, 2003). Retention to Year 12 has been found to have the greatest impact on employment prospects for Indigenous students (Taylor J, 2005). Purdie and Stone emphasise the importance of schools-based projects in increasing the attendance and retention rates of Indigenous students to Year 12 (Purdie N and Stone A, 2005). They provide a summary of the 'attributes' of 'effective schools', 'effective teachers' and 'effective principals' necessary to create a climate of confidence

in all students' abilities to succeed (Purdie N and Stone A, 2005:25). This echoes the question posed by Partington in his paper presented at the Australian Teacher Education Association National Conference in 1997, as to whether dropping out of school by Indigenous students is reflective of the characteristics of the child or the characteristics of the school and the teacher (Partington G, 1997). At the core, Partington argues, is inadequate preparation teachers have when they encounter social and cultural diversity in schools (Partington G, 1997). As Herbert states, factors associated with retention and the quality of the educational experience of high school students include the important relationship between teachers and students and valuing the potential of Aboriginal students (Herbert J, 2000).

In addition to the approach which stresses the necessary attributes of schools in creating positive schooling outcomes for Indigenous students, a sizeable body of research is emerging around the importance of student identity in understanding the Indigenous experience of schooling and related outcomes (Craven R et al., 2005, Herbert J, 2000, McDonald H, 2004). McDonald identifies the multi-layered issues of identity Aboriginal students have to negotiate between home, school, peers and community (McDonald H, 2004). The author makes the important point that to develop positive self-identity, there needs to be

a perceived value in schooling as students and an experience of school success (McDonald H, 2004:5).²

The landmark DEST study into Indigenous secondary students' career aspirations provides the most comprehensive window to-date into the views of Indigenous high school students, their parents and career advisors regarding students' post-schooling options (Craven et al, 2005). A number of significant findings have emerged from this important research, some of which can be found in the box below.

2. Two useful case studies in the McDonald paper illustrate how teachers assisted students to take up identities as both, "Indigenous and academic". These can be accessed at: <http://www.aare.edu.au/04pap/mcd04888.pdf>.

Box 1: Selected findings from DEST study (Craven et al, 2005)

Indigenous school students tend to set their schooling and post-schooling aspirations at lower levels than their non-Indigenous peers

Indigenous students perceive TAFE to be more useful to them as compared with non-Indigenous peers

The knowledge base underpinning post-schooling preferences for Indigenous students is significantly weaker than that of non-Indigenous students

Indigenous students consider schooling relevant to post-schooling options but do not tend to discriminate between the relevance of some subjects over others

Indigenous students rate career advice from family and friends as the most useful source, with Indigenous students perceiving family advice as the most important

Indigenous students were found to have lower academic self-concepts than their non-Indigenous counterparts

Indigenous students identified (in the following order of importance) these potential barriers to achieving their aspirations:

- The lack of family support
- The amount of career advice they had been given
- Their knowledge of what further education or job training they needed to pursue their goals
- Academic achievement

Other barriers reported by Indigenous students as limits to their career aspirations and goals included:

- Access to further education facilities in their local area
- Employer attitude and experiences of racism
- The availability of job opportunities locally
- Lack of support and encouragement from teachers
- School absences

Of particular note, Indigenous students had markedly lower academic self-concepts than their non-Indigenous counterparts (Craven R et al., 2005:16-20).

Focus group research conducted by Heaney (in her study of health career promotion amongst rural high school students) identified further factors as barriers to academic achievement. These included, limitations in subject choices, distance from school, lack of investment in schools and a high turnover of teachers. Further, teachers overwhelmingly perceived parents or other family members as the most significant factors influencing students' progression to tertiary studies and believed that positive role models and increased support at school would enhance career opportunities (Heaney S, 1998).

Indigenous students and the vocational education and training sector

While Indigenous students complete secondary education at about half the rate of non-Indigenous students, they are twice as likely to participate in Vocational Education and Training (VET) in schools (Helme S, 2005). A study of vocational training programs in schools in NSW and Queensland highlighted four broad themes associated with "perceived advantages" for students participating in the *VET in Schools Program*. These included, attainment of a qualification, a facilitated transition between school and work, an opportunity to "try before you buy" approach to career choice and availability of different learning and teaching styles (Porter J, 2006:20). Porter's evaluation also noted much diversity in the implementation of school-based VET programs locally, the non-competitive nature of self-paced learning and suitability of learning styles (Porter J, 2006:7).

A further key advantage for schools of the VET programs, were the development of closer links between schools and communities to enable school to work and training pathways (Porter J, 2006:26).

Helme's national survey of 20,000 Year 10, 11, and 12 students, found that the *VET in Schools Program* fulfilled several roles. These were improving engagement with the school and curriculum, broadening the student's 'pathway' options, providing workplace experience and providing a pathway to employment (Helme S, 2005:172). While the VET sector has been highly successful in offering a viable alternative to Indigenous students in danger of leaving school early, there are a number of concerns. The Australian National Training Authority

notes that Indigenous students' participation in VET tends to be at Australian Qualifications Framework (AQF) levels 1 and 2 with there being no improvement in participation at higher levels since 1997 (Australian National Training Authority, 2005:11). Others have pointed out that, during their middle high school years, some high-achieving Indigenous students are directed into practical rather than academic streams (Helme S, 2005). This streaming of Indigenous students into more narrow vocational pathways has resulted in calls for greater consideration to be given to the role of psychological determinants in the formation of student aspirations and outcomes (Bodkin-Andrews G et al., 2004). Indigenous students, in particular, have to negotiate a number of conflicting self-identities at home, at school, in the community and in their peer group.

Boulton-Lewis and colleagues found that Aboriginal and non-Indigenous students view and approach formal university learning similarly. Differences were noted however, in that learning for Aboriginal students was grounded in practical activities, or exhibited a cultural focus and, in some students, a moral dimension to learning (Boulton-Lewis G M et al., 2000). Staged approaches have been found to be successful for Indigenous students in the fields of aged care, nursing and health-related VET in Schools Programs (Kennedy Consultants, 2006). What is also known about Indigenous students in the VET Sector is that there is a greater chance of their completing studies when support programs (including non-traditional modes of delivery) are used and when there is a positive attitude to Indigenous cultures and needs in training organisations (Australian National Training Authority, 2005).

Indigenous students in the Higher Education Sector

For Indigenous Australians, TAFE is the dominant post-schooling experience. This is attributed to the development of programs encouraging participation in education whilst being *responsive to family, community and cultural commitments* (Hunter B H and Schwab R G, 2003:18). Other important facets include the development of Indigenous education units to address the specific cultural needs of Indigenous people, provision of employment programs compatible with part-time work and the regional and local presence of educational facilities (Hunter B H and Schwab R G, 2003, Mellor S and Corrigan M, 2004).

Despite increased Indigenous TAFE enrolment overall, participation in, and completion of, Certificate 3 or above is still greater among non-Indigenous Australians than Indigenous Australians (Mellor S and Corrigan M, 2004).

Data for 2001 showed that Indigenous students comprised 1.5% of higher education student enrolments, with access rates particularly high for those enrolled in higher education with no formal qualification upon entry to the Bachelor level or lower (31.9% compared with 7.7% for non-Indigenous Australians). However, data for that year also illustrated a lower retention rate for Indigenous Australians (59%) when compared with their non-Indigenous counterparts (77%) (Mellor S and Corrigan M, 2004:44).

Age is another differentiating factor in post-secondary education with the non-Indigenous population [having] a higher participation rate in post-secondary education at a younger age than the Indigenous population, which shows much higher participation rates later in the life-cycle (Hunter B H and Schwab R G, 2003:10). Page and colleagues note that recognition of the unique characteristics of mature age Indigenous students, with family, work and community responsibilities, as well as less experience of formal learning in an academic setting, is essential to valuing and supporting diversity –not only amongst the students but in the mode of their tuition. These authors remind us that these students have, 'particular motivations to enrol and definitions of academic success' (Page S et al., 1999:1)

The failure of educational institutions has been their inability or tardiness in meeting the specific personal, social, cultural and educational needs of Indigenous students. This has lead researchers such as Bin-Salik to argue for 'cultural safety' as a genre in its own right within the education sector (Bin-Salik M, 2003). Within universities, the presence of Aboriginal Support Units and Programs has ensured a steady growth in Aboriginal enrolments (Bin-Salik M, 2003:24). The Australian Indigenous Doctors' Association (AIDA) has noted of medical faculties that:

while current government and university policies relevant to Indigenous medical students include allocated places for Indigenous students, alternative entry options and Indigenous student support units, most Australian medical schools still struggle to recruit and retain Indigenous students (Australian Indigenous Doctors' Association. (Minniecon D & Kong K), 2005:1).

AIDA's comprehensive survey of Australian medical schools made a number of findings, as summarised below -

Box 2: Summary of findings from AIDA report (Minniecon D & Kong K, 2005: 18-21)

Indigenous medical student enrolment numbers have remained at 1.1% of overall medical student enrolments since 2003;

60% of Indigenous medical graduates stated that it was their desire to work in Indigenous health and with their community;

86% attributed family members and role models with providing encouragement and support to pursue a career in medicine;

There was strong motivation by all Indigenous students surveyed to stay at medical school and complete their studies despite experiencing many personal, academic, financial and other challenges;

Australian medical schools currently employ a range of recruitment and retention strategies. However, not all employ all strategies and some do not employ any. More specifically, 57% have recruitment workshops; 86% offer an alternative mode of entry; 36% have specific Indigenous health or medical support units.

The elements of best practice identified by medical schools with the greatest number of Indigenous medical students are: locally-based strategies; building relationships with potential students, families and communities; Indigenous medical or health support units and Indigenous staff; and University and school visits (Australian Indigenous Doctors' Association. (Minniecon D & Kong K), 2005:21). Other features of best practice identified by AIDA as requiring better implementation include: personal contact and community engagement; university and school visits; Indigenous health



support units; Indigenous staff; mentoring; curricula; and 'cultural safety' (Australian Indigenous Doctors' Association (Minniecon D & Kong K 2005:22). The question of Indigenous content in the medical curriculum has also been placed on the national policy agenda by the Committee of Deans of Australian Medical Schools (CDAMS), in partnership with the Office for Aboriginal and Torres Strait Islander Health (OATSIH). At its national workshop held in June 2005, the LIME Connection (Leaders in Medical Education, now a national network) provided a "Statement of Outcomes and Intent", available through the CDAMS website.³

Programs in schools addressing professional career pathways

The implementation of VET and other schools-based programs serve multiple functions, and are targeted at a diverse group of Indigenous students. These include: 'at risk' students, such as those in danger of leaving school before completing Years 10; those in danger of not progressing from Year 10 to Year 12; and, those with the desire to proceed to tertiary studies but who need support and assistance to follow through. Most of these programs have as their primary functions encouraging Indigenous students to complete their schooling and linking schools-based programs in Years 11 and 12 to concrete employment outcomes (Australian National Training Authority, 2005). A recent evaluation of VET programs in New South Wales and Queensland Schools found considerable diversity at the local level in the implementation of the school-based VET programs (Porter J, 2006). As Porter notes:

the approach to VET was influenced by factors as diverse as government policies, resources available within a school or community, parental perceptions, and the strength of community networks (Porter J, 2006:7).

From the students' perspective, the advantages of selecting VET subjects were their practical focus and the development of competencies useful to their future career aspirations. Porter goes on to note:

VET subjects allowed experimentation of career paths and informed decisions on future careers and could offer a head start in a chosen job or career (Porter J, 2006:17).

However, Porter's study also found difficulties with the articulation of VET qualifications towards tertiary entrance in both states as well as some discrepancies between NSW and Queensland. This finding, as the author noted:

was an obstacle for those promoting a broader school curriculum, one designed to offer multiple post-school pathways (Porter J, 2006:28).

Case studies of best practice in aged care, nursing and health, outline ten factors of success for building Indigenous VET programs in schools (Kennedy G, 2006). The critical elements for success across a range of health-related careers programs developed for Indigenous students are shown in Box 3 below.

Box 3: Critical elements for success in health related careers programs for Indigenous students (Kennedy G, 2006)

Involvement of Indigenous Community Controlled Organisations

Involvement and ownership of Indigenous staff

Involvement and ownership of families and communities

Promoting relevant learning

Supporting students through personal relationships such as mentoring

'Hands-on' learning

Workplace readiness

A staged approach with 'bite sized' successes

Starting early – targeting younger students

Indigenous specific programs

(Prepared by Kennedy Consultants for the Department of Education, Science and Training (DEST), 2006).

An integral part of programs in schools is the addressing of career aspirations and the recognition of their importance early in the high school years. Lowe and Tassone identified varied levels of recognition by schools staff of the need for specific Indigenous programs, limited understanding of careers education from 'non-careers' staff and gaps for students dealing with critical areas of development, such as self-esteem, identity, the

³ <http://www.cdams.org.au/>

changing world of work and managing transitions (Lowe and Tassone, 2001). Three critical issues were identified in their work regarding the success of such programs, including: greater understanding and recognition of the issues faced by Aboriginal students and communities; greater attention for career education in curriculum development and schools programs; and ownership by school staff (Lowe K and Tassone J, 2001).

Lester's Report into the Office of the Board of Studies' Aboriginal Careers Aspirations Program for Aboriginal Students in NSW High Schools argued the need for programs to meet individual school population needs. He also noted, despite differences in local and State implementation of programs, that some of the most important outcomes of these are those related to increases in school retention rates - through VET in Schools Programs - and the development of partnerships between schools and the post secondary sector, including VET and universities (Lester J, 2000).

Other school-based programs target students with the potential for success, such as those in the 'Follow the Dream Program' (FTD) for Aboriginal students in Western Australia.

These Programs were developed to address the disproportionately smaller number of Aboriginal students completing Year 12 in Western Australian schools compared with other States and Territories, and the greater gap between Indigenous and non-Indigenous retention in the State [Partington G, 2004:3]. In Partington's words:

the program provide(s) groups of Indigenous students with the peer support and focus that enables success (Partington G, 2004:4).

Partington adds that the program will need to overcome the barriers that have impeded Aboriginal students' success in the past, and, will have to address cultural issues, family and peer influences, poverty, health and broader community factors (Partington G, 2004:6).

University based programs targeting health professional career promotion in schools for Indigenous students

Indigenous-specific health and other professional careers residential programs are emerging as powerful motivators for Indigenous students to

complete their schooling and continue on into tertiary study. These include residential programs, such as the Indigenous Winter School for Medicine and other faculties at the University of New South Wales, held annually, and the Koori Health Career Residential Workshops held in 2002, 2003 and 2004 through Charles Sturt University's Ngungilanna Indigenous Education Unit. The target groups for these types of programs and workshops are Indigenous students in Year 10 to Year 12. Many of these students are exploring the range of possible health-related careers as a prelude to 'shopping around' for a career, or those who have a broad interest in the health sciences.

The university-based residential programs provide access to information about tertiary studies, increase Indigenous high school students' awareness and participation in tertiary education institutions, provide awareness of Indigenous-specific support programs as pathways to study, encourage students 'at risk' of disengaging from schools - especially during difficult transitional periods - to continue with their schooling, assist students to identify and clarify paths of interest and the necessary subject areas for further study in their areas of interest, provide a culturally safe, sensitive and 'proud' environment for participants to embrace their Aboriginality, and incorporate team building and cultural activities as part of the week (Nura Gili Indigenous Programs (McCall J & Martin S), 2004). Students are also given the opportunity to meet with Indigenous health and other professionals and university-enrolled Indigenous students who can relate their own personal pathways to Indigenous high school students.

A review of the UNSW Winter School Program for 2004 found overwhelming support for the residential program, with 44% and 56% respectively rating the program as 'very good' or 'excellent'; 91% of teachers felt the program had or would have a positive effect on clarifying students' ideas and aspirations for the future; while 95% of parents/carers reported that Winter School had positively influenced their child and clarified their ideas and aspirations for the future (Nura Gili Indigenous Programs (McCall J & Martin S), 2004:16-18). Longitudinal studies would provide valuable data to test the relationship between these positive anecdotal experiences and eventual higher education outcomes. Teachers did make the recommendations that participants in the program be followed up, and that the program be open to

more participants, highlighting the need for greater resourcing of this model of higher degree and career promotion to Indigenous high school students.

Reports from three Koori Health Careers Residential Workshops, convened in partnership with Charles Sturt University and the former Greater Murray Health Service, show the overwhelmingly positive impact of these residential programs on students, their teachers and careers advisors. These are shown below:

Box 4: Koori Health Careers Residential Workshop Participants' Evaluations

- **Highly motivational and informative;**
- **Motivation and encouragement to complete secondary education;**
- **Greater understanding of the relationship between subject choice and the range of health career opportunities;**
- **Knowledge of university entry pathways and Indigenous support programs and assistance;**
- **Effective transmission of knowledge through personal stories;**
- **Exposure to Indigenous health practitioners and academics;**
- **Opportunity to meet other Koori students interested in furthering their studies;**
- **Opportunity to learn through practical and personal health scenarios.**

Sources: Koori Specific Health Careers Residential Workshop, 2002; Koori Specific Health Careers Residential Workshop, 5-9 May, 2003; *Wanna Work in Health: Be what ya wanna*, Koori Health Careers Residential Workshop 2004. For further information about these reports, please contact: Ms Sue Sutherland, 02 6933917

Research and policy developments in Indigenous education

A range of determinants influencing Indigenous education outcomes have been documented. These include, family, community, socio-economic and geographical determinants. The impact of geography, however, has been found to be less influential than the social and family environment (Goold S et al., 2002, Schwab R G and Sutherland D, 2001). Other factors of significance related to students' educational outcomes include: the educational attainment of other household members, individual and family health status, poverty, social alienation, imprisonment, family and household structure, housing needs, parents'

occupation and education, 'rurality', disaffection with school and teachers, high mobility, and the social obligations placed on young people as a result of high levels of morbidity and mortality in Aboriginal communities (Goold S et al., 2002, Hunter B H and Schwab R G, 2003, Schwab RG, 1999).

Purdie and colleagues have researched the role that 'self-concept' plays in student academic achievement and outcomes (Purdie N and McCrindle A, 2004; Purdie et al, 2000). Self-concept was also addressed in the DEST-funded research into Indigenous students' aspirations (Craven et al, 2005). What this body of research points to is that self-concept is a better predictor of efficacy for academic achievement for non-Indigenous students than for Indigenous students; that self-concept increases with age for Indigenous students, while the opposite is true for non-Indigenous students, whose sense of self is greater at a younger age; that the extended family plays a more important role for Indigenous young people than non-Indigenous young people in the formation of self-identity; and, that the attitudes and behaviours of significant others are very important factors in the development and maintenance of a positive self-identity for Indigenous students. Within the home context, these significant others are parents, grandparents and other carers, while within the school context, teachers have been found to have the most impact on the development of a positive self-identity.

Page and colleagues confirm that Indigenous students are challenged by financial hardships, insensitivity to cultural issues by some staff and students, discrimination, lack of Indigenous mentors, poor study skills, lack of adequate educational preparation, lack of resources and ongoing family commitments (Page S et al., 1999).

There are however, two features of the aspirations of Indigenous high school students that auger well for careers in health and the caring professions. As Craven and colleagues found, Indigenous students, compared with non-Indigenous students, attach significantly more importance to, and feel more confident about, their ability to making a contribution to society and their communities. Further, while both groups of students studied by Craven and colleagues considered schooling relevant to post-school options, Indigenous students were less likely to discern the relevance of particular subjects over others. Consistent with other studies,

Indigenous students perceived advice from the family as more useful than did non-Indigenous students (Craven et al, 2005).

In looking at the complex relationship between schooling and its socio-cultural context, however, Mills and Gale point to the potential for maintaining marginalization of Indigenous families, where differing perceptions of the value of education may be held (Mills C and Gale T, 2004).

Malin and Maidment (2003) identify the key features of emerging policies and programs critical to progress in Aboriginal education, as shown below -

Box 5: Emerging Policies and Programs in Indigenous Education (Malin and Maidment, 2003)

- **The move away from an ideology of assimilation to reinforcing Indigenous culture and identity through education**
- **The importance of community development and capacity building and the recognition that factors such as nutrition and physical and mental health are barriers to effective educational outcomes**
- **The provision of effective pathways to employment and increasing emphasis on community-controlled development**
- **Increasing Indigenous participation in education**
- **Recognition of the importance of teacher education and curriculum cultural awareness and pro-diversity training**
- **The significance of concepts of Aboriginal self-concept, self-esteem and culture to educational outcomes** (Malin M and Maidment D, 2003: 85-99)

One of the most significant findings to emerge from their 'grassroots' consultations was the finding that:

Indigenous families want education to address two areas essential to their survival. The first is an education which empowers the next generation with Western cultural knowledge

to be leaders and activists. The second is an education which also situate[es] them firmly in their Indigenous culture, language and identity (Malin M and Maidment D, 2003: 91).

PROGRAMS AND INITIATIVES

The following programs have been selected from a number of worthwhile Initiatives. These have been chosen to highlight the important elements pertinent to effective retention and support programs for Indigenous school students and for effective recruitment and retention into higher degrees. These range from pre-school programs to those in primary and secondary schools, including programs and initiatives targeting career promotion generally, and careers in the health sciences in particular. Program websites were accessed in May 2006.

1. The What Works Program in Schools

This can be accessed on the following website. The website also includes a series of case studies in schools.

<http://www.whatworks.edu.au/cases1.htm>

2. DVD Resource, Olivia's Story

This resource was developed by Yaitya Purrana, Indigenous Health Unit of the Department of General Practice, University of Adelaide. The DVD can be purchased for \$30 through the Yaitya Purrana Indigenous Health Unit, telephone 08 83034629. The DVD is aimed at increasing recruitment into the Faculty of Health Sciences and covers several Aboriginal community cohorts in the target audience, including pre-Year 12 secondary students, Year 12 secondary students, Indigenous Health workers in allied health fields, Indigenous TAFE students, and mature age people.

3. Indigenous Careers On-line Resource

This is a very useful website with information on career guidance and advice for Indigenous students.

<http://www.curriculum.edu.au/Indigenoucareers/>

The following web address takes the reader through a concept map for a proposed on-line resource and includes documents on effective provision of career support; resources; elements of effective Indigenous programs; role models; mentoring; engaging parents, and adapting resources for an Indigenous audience.

<http://www.curriculum.edu.au/Indigenoucareers/concept.htm>

4. Partners in a Learning Culture: the way forward

This can be found on the following web address or accessed through the DEST website. The following web address takes you directly to the report, *Partners in a Learning Culture* (accessed on 18 SEPT 2007):

http://www.dest.gov.au/sectors/training_skills/publications_resources/anta/documents/p/partners_in_a_learning_culture_strategy_pdf.htm

This document addresses recruitment, retention and support for students through the pathways of the Vocational Education and Training Sector (VET). The document includes pathways to employment in the health sector.

5. A Real Taste of the Industry: *Case Studies and Best Practice in Aged Care, Nursing and Health-Related VET in Schools Activities. These have a supplement specific to Indigenous Programs and can be accessed via the following website*

<http://www.communityactivecareers.com.au/>>
and the email address is:
info@communityactivecareers.com.au

6. The Aboriginal Career Aspirations Program

This is one of a range of programs aimed at improving educational outcomes for Indigenous students and operates across a number of States.

NSW

The following web address takes you to the NSW Board of Studies Program (accessed 18 SEPT 2007), and includes a number of useful applications and program evaluations.

<http://ab-ed.boardofstudies.nsw.edu.au/go/resources/acap/>

NT - Aboriginal and Islander Tertiary Aspiration Program (AITAP)

This Program targets Indigenous students in urban secondary schools in the NT and falls under the auspices of the Department of Employment, Education and Training. Information can be accessed on the following web address:

www.education.nt.gov.au

7. No Shame: Job Careers In Health

(Commonwealth Department of Education, Science and Training)

This resource is a Health Career Information Guide for Indigenous Students and presents the personal pathways of a number of Indigenous people studying medicine and other health science professions. It provides sections on the following: case-studies of students, common questions and answers about taking the plunge into higher education, and a section on students' options for study and financial and residential support. The resource covers the many pathways to a career in medicine and health and can be accessed on the following web-address:

http://www.dest.gov.au/sectors/career_development/publications_resources/profiles/no_shame_job_health_information.htm
(accessed 18 SEPT 2007)

8. Breaks in the road: evaluation of the Indigenous Youth Partnership Initiative (IYPI)

The following website provides information on an initiative to support the transitions of young Indigenous people to adulthood. Eighteen projects were funded and evaluated. The Initiative provides a 'whole of community' approach to youth transitions and covered assistance and support to stay on at school and provide pathways to training, employment and independence.

http://www.dest.gov.au/sectors/Indigenous_education/publications_resources/profiles/breaks_in_the_road_final_report.htm
(accessed 18 SEPT 2007)

9. Koorie Open Door Education (KODE)

The KODE is a model that addresses four key areas of education in Victorian Schools, i.e. retention of Koori students from early childhood through 12 years of schooling; participation of parents in decision making and their children's learning; curriculum reform, and access to training and higher education beyond school. Contact details for the four KODE campuses can be found at the following web address (accessed on 18 SEPT 2007).

http://www.vaeai.org.au/education/s_kode.html

10. Follow The Dream Program (FTD)

The FTD Program has 560 students enrolled at 25 sites in Western Australia. Students range in age from 11 to 17 years and are selected to participate in the program and do so with the support of their parents and schools staff. The FTD Program uses an interagency approach to achieve greater retention of Aboriginal students to Year 12 and promote higher education learning. Information about the Program can be accessed through the following web address or from the Department of Education and Training in WA.

http://www.dsf.org.au/learningchoices/program_info.php?id=173

11. Health Careers Kit 2005/2006

(All you need to know about Allied Health, Medicine and Nursing programs at universities in New South Wales)

This kit provides information about the various health programs offered at each of the participating universities. The kit has a section for Indigenous students with information about the Special Admissions Schemes and Indigenous Student Support Centres at each of the universities in NSW.

Contact: Rural Clinical School, School of Public and Community Health, University of New South Wales Sydney 2052. Tel: 02 9385 3250

