Key factors influencing educational outcomes for Indigenous students and their implications for planning and practice in the Northern Territory

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Abstract

This presentation considers the intrinsic link between health and education and the benefits of collaborative research for improving the education and life outcomes of Indigenous children. The Council of Australian Governments' *Overcoming Indigenous Disadvantage* framework and the *Closing the Gap* generational strategy have resulted in significant new funding through a range of national partnership agreements to improve Indigenous child health, development and education. The focus of these reforms is consistent with the human development paradigm now advocated by international agencies such as UNICEF, WHO and OECD. They are also informed by recent advances in scientific knowledge regarding the developmental origins of adult health and disease and new understandings of the importance of early life environmental influences on children's success in school learning and their subsequent opportunities for participation. The implementation of these policy initiatives has highlighted the need for a higher level of collaboration between education, health and other areas of research relevant to development of Indigenous children. It is in this context that the research methodologies derived from population health and evidence-based medicine are proving useful in building the evidence base for Indigenous education. The presentation will discuss the implications of these developments for policy and practice in Indigenous education and conclude with a description of some recent collaborative research supporting the implementation of Indigenous education and other service reforms in the Northern Territory.

Summary

There is no other more important determining factor which needs to be addressed in breaking the inter-generational cycle of poor health and disadvantage of Indigenous Australians than improving the current poor levels of school participation and academic achievement of Indigenous children. Advancing population level outcomes in education is a central feature of the Council of Australian Governments' (COAG) *Overcoming Indigenous Disadvantage* framework and the *Closing the Gap* national strategy to eliminate the Indigenous disparity gap within a generation. It is also a key element of the human development paradigm now advocated by international agencies such as the UN, the WHO and the OECD as one of the most effective means presently available to governments for eradicating poverty and advancing societal wellbeing. Implementing a human development approach in the Australian Indigenous context entails significant long-term investments to support families and communities in strengthening early child development, improving the effectiveness of school education and creating new training pathways into employment. It also requires better coordination of strategies to address the known determinants of child development and education, as well as addressing the social and health problems associated with severe disadvantage, such as parental substance abuse, family violence, mental health and child maltreatment.

The direct and indirect links between health and education have long been recognised in the international health, education and human development literatures. For example, almost all developing countries have shown a linear relationship between increasing levels of education of parents and rates of infant mortality. Cleland et al.'s 1992 analysis of WHO and other international data on the median 50 decline in infant mortality observed across 12 developing countries in Latin America over the 20-year period from 1965 and 1985 showed that in all but one of these developing countries improvements in maternal education accounted for 202–20–35% of the national decline in infant mortality.

Increased educational levels are associated with better health, social and economic outcomes across all populations. The ways in which education contributes these gradients of population wellbeing have traditionally been attributed to the cascading benefits generally afforded by education – such as better vocational opportunity, improved income, health literacy and health behaviours, and greater empowerment (i.e. personal agency) in accessing and utilising health care when needed. More recently, the burgeoning research discoveries in the neurosciences and epigenetics have expanded scientific understandings of the importance of the nature of gene-environment interaction in children's years of maximum brain growth and development of skills. These findings highlight the significant effects of education on cognitive and emotional development, which in turn have enduring effects for lifelong learning and adaptive functioning, such as problem solving and emotional resilience (The Royal Society, 2011).

It is well understood that much of the variation in the high rates of chronic disease among adult Indigenous Australians is attributable to their social determinants. Social determinants are factors characterising environments that individuals are 'exposed' to and that can have a lifelong influence. They act at different levels of influence, interact with one another, and represent a broad array of characteristics that are not of a biological or genetic basis, but rather are evident in the interactions between individuals and their social and physical environments. They include living conditions, interpersonal relationships within and between families and their communities, the social demographics of the family, learning environments and opportunities for children, the quality of housing, community amenities, neighbourhood safety, as well as the broader socio-political context. Social determinants have a disproportionate influence on human development in the earliest years of life. Some early life environmental factors have immediate influences on the biological development of the child, others have an ongoing cumulative effect on health and wellbeing, while others have a latent effect on adult health outcomes, for example in adult onset diseases such as type II diabetes.

Epidemiological studies have been valuable in advancing understanding of the ways in which social determinants appear to account for a large proportion of the explained variation in the rates of complex chronic diseases between different segments of the population. These studies offer insights into the mechanisms through which social and other environmental factors appear to become 'embodied' or biologically embedded in health and disease outcomes. Epidemiological studies have been vital to the development and implementation of evidence-based policy and practice for the prevention and reduction of such adverse health outcomes. In the Australian Indigenous context this means that progress in reducing the life-expectancy gap and burden of chronic ill-health will be extremely slow unless some of the most pressing social determinants are more effectively addressed.

At the same time it is equally important that education policy and practice is informed by a proper understanding of the social determinants which have greatest influence on children's

education outcomes. This requires knowledge of how these determinants are distributed, how they co-occur and interact, and how they might be avoided or their influences modified. One of the few existing sources of epidemiological data regarding the population level determinants of the educational outcomes of Australian Indigenous children is the Western Australian Aboriginal Child Health Survey (WAACHS). The WAACHS involved a cross-sectional survey of representative population sample of 5600 Western Australian Aboriginal children aged 0–17 years. The data were collected in households from parents/carers and young people aged 12–17 years by trained Indigenous and non-Indigenous interviewers. With family consent, data were also obtained from school principals and the teachers of 2739 of the survey children who were enrolled in school.

Half of all the Aboriginal students in the WAACHS had attended school for at least 87.5% of the school year. In other words, the median number of days absent was 26 days. In contrast, the median days of school absence of their non-Indigenous counterparts was 8 days. The large scale and comprehensive scope of the WAACHS enabled logistic regression modelling to be used to investigate how a range of child, family, school and community factors operated singly and in concert to predict the likelihood of a student having had more than 26 days of school absence. No less than eight factors were found to be independently associated with an increased likelihood (i.e. odds ratio) of a child missing more than the median (26) days absence in a school year. They included children whose carers had Year 9 or fewer years of schooling (OR = 1.5); children with clinically significant emotional or behavioural difficulties (OR = 2.0); children in families where 7 to 14 life stress events had occurred in the past 12 months (OR = 2.0); students whose main language spoken in the playground was Aboriginal English, Creole or an Aboriginal language (OR = 2.4, 2.9 and 1.3 respectively); students whose parents reported they had trouble getting enough sleep (OR = 1.5); students who had never attended day care (OR = 1.5); students whose primary carer had needed to see the school principal about a problem the student was having at school (OR = 1.5); and students in schools with a high proportion of Aboriginal students, or in schools that had Aboriginal and Islander Education Officers (OR = 1.4).

These determinants of school attendance highlight the need for current reform initiatives in Indigenous education being linked and developed in synergy with the broader reform initiatives in Indigenous affairs. They also suggest that strategies to improve school attendance will be more effective if they can address certain community and family factors which are outside schools' traditional areas of influence. Strengthening school–community partnerships and mobilising community action to support school attendance is clearly vital to the success of school and welfare reforms seeking to improve student attendance.

The greater emphasis on accountability in professional practice in health, education and other areas of public sector management has brought with it the notion of 'evidence-based practice' (EBP) as a means of ensuring the quality, efficiency and effectiveness of policy, programs and services in achieving desired individual and population outcomes. This has its origins in 'evidence-based medicine' (EBM) first advocated by the UK epidemiologist Cochrane who suggested that '… because resources would always be limited, they should be used to provide forms of health care which had been shown in properly designed evaluations to be most effective' (Cochrane, 1972). Medicine has had a long history where practice was based on loose bodies of knowledge, or simply lore that drew upon the experiences of generations of practitioners, with much of it having little, or no, scientific evidence on which to justify various practices. The rapid recent advances in medicine and health care are now generally accepted to be due to the widespread adoption of EBM. It has also been of value in protecting the public from the risks of unfounded 'treatments' as well as identifying risks associated with 'established' and unfounded 'treatments'. Put simply, it has shown the value of identifying what actually works so it can be improved and promoted.

Evidence-based practice (EBP) has also become a major influence in education in recent years. In a similar fashion it has been suggested that the limited progress in improving educational outcomes can, in part, be attributed to instructional practices derived from the unconnected experience of thousands of individual teachers, each 're-inventing the wheel' and failing to adapt their practices in the light of the cumulative scientific evidence regarding 'what works'. Opponents the EBP model suggest it is not an appropriate method for knowing whether a particular teaching method works, as this will depend on a host of specific contextual factors, not least of which are those to do with the style, personality and beliefs of the teacher and the specific needs of the particular children in a class.

Modern evaluation theory stresses the need to consider the various types of evidence which are appropriate to their intended purpose when evaluating programs and practices with different populations and in differing practice settings. Rather than reaching policy conclusions and deciding actions on the basis of the evaluation of single studies

or programs, evidence-based policy and practice now generally assumes that it is necessary to aggregate results from a range of different evaluations through systematic reviews in order to produce reliable and comprehensive evidence. This entails locating the evidence, critically appraising its relevance, consistency, quality and value, then synthesising and disseminating the conclusions with recommendations (or requirements) for improving practice. In appraising and ranking the value of the available studies, a number of different evidence hierarchies have [been] found to be useful according their intended purpose. One such evidence hierarchy was recently proposed for Australian policymakers by the Australian Treasury (Leigh, 2010). This ranks the evidence from different study methodologies in the following order:

1 Systematic reviews (meta-analyses) of multiple randomised trials

2 High-quality randomised trials

3 Systematic reviews (meta-analyses) of natural experiments and before-after studies

4 Natural experiments (quasi-experiments) using techniques such as differences-in differences, regression discontinuity, matching, or multiple regression

5 Before–after (pre-post) studies

6 Expert opinion and theoretical conjecture

In the area of Australian Indigenous education there are relatively few published studies and systematic evaluations of policies and programs that would satisfy the higher levels of this evidence hierarchy. Given the unprecedented new investment now being made to improve Indigenous education outcomes, it seems more important than ever to ensure this is matched by high priority being given to building the evidence base for effective policy and practice as well as improving public accountability in the monitoring and reporting of how these initiatives are tracking in achieving their intended aims. The presentation will conclude with examples of collaborative health and education research which is guiding service reform in Indigenous education and helping to build partnerships between communities, schools and other service providers in tackling the root causes of Indigenous disadvantage.