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### **Author**

Homel, Ross, Freiberg, Kate, Lamb, Cherie, Batchelor, Samantha, Carr, Angela, Hay, Ian, Teague, Rosie, Elias, Gordon

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## The Pathways to Prevention project: doing developmental prevention in a disadvantaged community

Ross Homel, Kate Freiberg, Cherie Lamb, Marie Leech,  
Sam Batchelor, Angela Carr, Ian Hay, Rosie Teague & Gordon Elias

*There is now a strong evidence base that problem behaviour by young children is one of the strongest predictors of both adolescent delinquency and later adult offending. The Pathways to Prevention project began in 2001 with the aim of involving family, school and community in a broad set of planned interventions to prevent anti-social behaviour among this group. The program targeted four to six year old children who were in transition to school focusing on enhancing their communication and social skills and empowering their families, schools and ethnic communities to provide supportive environments for positive development. The early results from this study are promising, particularly in that boys improved significantly in terms of being ready for school with reductions in difficult behaviour. Clearly longer term tracking of this group of children to see whether these effects continue into adolescence will be critical for scientifically evaluating the benefits of the intervention from a crime control perspective. In terms of service delivery the challenge, as the authors note, is seeing whether the core ideas of the demonstration project can be scaled up for wide spread delivery without losing the key guiding principles of the Pathways project.*

**Toni Makkai**  
Director

### Introduction

Studies of the pathways to antisocial behaviour have identified persistent conduct problems, oppositional behaviour and physical aggression in the preschool and early primary school years as among the strongest predictors of adolescent aggression, delinquent behaviour and a range of negative long term outcomes (Farrington 1991). More broadly, impulsivity, low school achievement, poor parental child-rearing practices, and poverty have all been identified as key predictors of involvement in juvenile crime (Farrington 2003).

Each of these factors may be able to be modified through planned interventions. There is growing evidence that developmental prevention programs can open up opportunities for children and young people and reduce their involvement in crime, especially if they live in disadvantaged communities (Homel 2005). A series of classic experiments that commenced in the 1960s and 1970s have inspired new generations of prevention initiatives that have helped to turn the tide from the 'nothing works' nihilism of the 70s and 80s to the 'many things work' ethos of recent years. The general consensus is that while interventions do not achieve magical effects, a range of worthwhile benefits are possible (with effect sizes of the order of 0.2 or 0.3) if programs are based on scientific evidence and are provided with sufficient resources to ensure that the attractiveness, duration and intensity of services are sufficient to make a dent in entrenched poverty (Farrington & Welsh 2003; Halpern 2000).

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GPO Box 2944  
Canberra ACT 2601  
Australia  
Tel: 02 6260 9272  
Fax: 02 6260 9293

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Many of the most successful overseas approaches were reviewed in the report *Pathways to prevention* (National Crime Prevention 1999), which included an overview of family support and prevention programs in Australia. Many creative initiatives in Australia that collectively held great promise were identified, but relatively few of these initiatives were well evaluated. The report concluded that it was time to invest in demonstration projects to develop a body of scientific knowledge about how to do developmental prevention systematically in Australian conditions, especially in disadvantaged communities where needs are most concentrated. The authors proposed the development of a whole-of-community model with a range of programs implemented simultaneously in several developmental contexts (family, school, community) and at several life transitions, within a framework that helped create an inclusive, child-friendly or family supportive environment. This is an ambitious agenda that built on the international literature but went well beyond the established frontiers in its emphasis on building child-friendly and family-supportive communities.

This paper is about the Pathways to Prevention project, a demonstration project developed jointly by Griffith University and Mission Australia to implement these ideas in the most disadvantaged urban area in Queensland (Homel et al. 2006). The project is unusual because it is built on a university-community agency partnership supported by the Queensland Government but funded primarily from corporate and philanthropic sources and from the Australian Research Council. Despite considerable challenges, the project has achieved many of its objectives. The origins, objectives, design and program content are outlined in this paper, as well as some of the findings for 2001–2003, the first phase of the project. Achievements and challenges are addressed in the conclusion.

### The origins of the project

The 1999 *Pathways to prevention* report had an immediate impact on the research and policy communities in Australia, less notably in crime prevention than in more developed and larger fields such as mental health, human services, drug prevention, and child protection. Project planning commenced in late 1999 after Mission Australia expressed interest in developing a project in Queensland with the financial support of the John Barnes Foundation.

An early decision was that an intervention should be developed for young primary-aged children or preschoolers to improve their communication skills. The rationale was that language skills are the foundation for all other learning areas and are strongly linked to problem

behaviours and a successful transition to school (Beitchman et al. 1996; Fey, Catts & Larrivee 1995). The transition from home to school quickly became central, given the evidence for strong socioeconomic and racial influences on the success of this transition and subsequent school achievement, and the link between low academic performance, low parental involvement in children's education, and juvenile offending (Huizinga & Jakob-Chien 1998; Rouse, Brooks-Gunn & McLanahan 2005). A model of intervention emerged that focused on the transition to school and combined communication and social skills programs for preschoolers with family support and community development activities.

During 2000, demographic and other data were used to identify Inala in the

**Table 1: Operating goals and principles**

<b>Think developmentally</b>	<b>Do good science</b>
<ol style="list-style-type: none"> <li>1. emphasise universal, non-stigmatising programs</li> <li>2. focus on life transitions and related developmental issues</li> <li>3. use a multi-contextual approach with programs located within the major spheres that influence children's development</li> <li>4. focus on building connections between key developmental contexts</li> <li>5. use a strength-based orientation – build on families' personal and cultural assets</li> </ol>	<ol style="list-style-type: none"> <li>1. develop evidence based interventions (based both on research and effective practice)</li> <li>2. focus on preventive interventions</li> <li>3. commit to the achievement of measurable goals</li> <li>4. use both quantitative and qualitative evaluation methods</li> <li>5. focus on outcomes – avoid the usual drift to outputs</li> <li>6. generate new knowledge – <i>how</i> were the outcomes achieved?</li> </ol>
<b>Understand community needs</b>	<b>Engage in community development</b>
<ol style="list-style-type: none"> <li>1. the needs of the community take precedence over the interests of the partner organisations</li> <li>2. use multiple methods to understand local needs and resources:                             <ol style="list-style-type: none"> <li>a. risk factor analyses</li> <li>b. qualitative surveys</li> <li>c. local histories (including oral histories)</li> <li>d. focus groups</li> <li>e. build on knowledge of community workers</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. empower individuals and the community</li> <li>2. employ local people and train them</li> <li>3. involve the community in planning activities</li> <li>4. support existing programs and services</li> <li>5. build partnerships between services, researchers, local institutions (e.g. schools) and the community</li> <li>6. facilitate access to services by culturally diverse groups</li> <li>7. demonstrate commitment to the community</li> <li>8. communities cannot do it all: use external expertise</li> <li>9. work for sustainability: changes in institutional practices</li> </ol>

south western suburbs of Brisbane as a particularly disadvantaged area. Bounded by freeways, light industrial estates, new housing developments and farmland 20 km from the CBD, Inala (population approximately 21,000 people) is close to a major prison and youth detention centre, and many families of prisoners live in the district. The rate of court appearances by young people in the district is much higher than the average for Brisbane (Freiberg et al. 2005).

### Project goals and operating principles

A number of operating goals and principles that emerged out of the partnership between Griffith and Mission Australia are summarised in Table 1.

These goals and principles were, of course, aspirations, many of which have not yet been fully realised. The goal of promoting both human and community development is fundamental yet calls for an extraordinary range of skills and a level of community engagement and trust that can take years to develop. Similarly, the emphasis on using scientific methods poses great challenges in a context where staff struggle to engage effectively with children and families who are often in a state of extreme crisis. The goal of using a variety of qualitative methods to understand at depth the needs of the community potentially imposes a timetable on project development that could lead to paralysis if not carefully managed.

### Project design and program content

The Pathways to Prevention project is focused on the transition to school and involves the integration of family support programs with preschool and school-based programs in the seven Inala state schools within a community development framework. The target population is children aged 4 to 6 years in the area, and their families and ethnic communities.

#### *Preschool Intervention Program (PIP)*

The purpose is to enhance children's communication and social skills to provide a foundation for school success and the development of positive behaviours and interpersonal relationships. These activities were conducted during regular preschool sessions by specialist staff (visiting advisory teachers and psychologists) who provided enrichment activities and direct skills training for the children. In the communication program, an initial assessment of children's language proficiency was used to develop a language profile for each child prior to intervention. Specialist teachers then used each child's language profile to guide instruction. During structured interaction sessions children were gradually introduced to increasingly complex levels of syntax and vocabulary. The social skills intervention used a range of developmentally appropriate teaching methods such as puppet and videotape modelling of behaviour, games, songs, stories and role plays. These activities helped make learning fun, helped make the concepts more concrete, and ensured that every child had a chance to rehearse social information processing skills such as identifying and interpreting social problems, thinking of solutions to those problems, and understanding that different solutions have different consequences.

Participation in child-focused programs based at preschools was determined by non-random assignment of preschools to intervention and non-intervention groups. Four of the seven preschools received an intervention program while the remaining three preschools participated as comparison groups. With their caregivers' consent, all children attending preschool at the intervention schools participated in either the communication or social skills programs. Children in the intervention schools were very similar to those in the comparison schools in terms of social and economic factors, although there was wide variation across schools in

the proportions of children coming from families whose first language was not English. The proportion varied from 8.9 percent to 66.7 percent. Ethnicity variables were controlled as covariates in statistical analyses.

#### *Family Independence Program (FIP)*

This program, which in 2001–2003 was available to all families with children aged 4 to 6 in the area (although it now has a broader age focus), assists caregivers and families to create a stimulating home environment that is harmonious and conducive to child development, through the provision of culturally sensitive services. Families are able to access multilayered levels of support and to combine different programs according to their level of need or readiness to participate. The delivery of evidence based programs is thus contextualised in such a way that they are acceptable and beneficial to the target community. The service is voluntary so adults may vote with their feet, and it is through non-attendance that workers become aware that a particular intervention is not working.

Activities are conducted by a team of professional and paraprofessional staff from a variety of disciplines with at least one worker from each of the main ethnic and racial groups in the area (Indigenous, Vietnamese and Pacific Islander). Programs include:

- individual support and counselling for both adults and children
- behaviour management programs for parents, both formal and informal
- early childhood initiatives such as playgroups
- family support group programs
- programs for children and youth
- programs to link families with schools such as: Supporting Kids in Language and Literacy Skills (SKILLS) and Helping your Child Succeed at School
- broad-based community development initiatives.

**Community insight survey**

To understand the aspirations of parents from the major ethnic groups for their preschool children, and the perceived barriers to achieving these aspirations through the school system, a community insight survey was conducted in 2001, the year prior to full program implementation. The survey was designed and implemented by local people, with guidance from project staff. One hundred and fifty five people participated in the survey (60% parents and 40% cultural leaders). A number of subtle but important differences emerged between these groups in terms of aspirations and perceived barriers, as well as a range of common concerns. As illustration, some findings on what parents thought were characteristics of a good preschool are reported (Table 2).

All parents valued friendly and caring teachers. Indigenous parents were particularly appreciative of activities that taught children about their culture. They also really liked help with transport (bus services, pick up and drop off). They particularly appreciated teachers’ understanding of parents’ problems or current family difficulties, and wanted their children not to have problems at preschool. For Pacific Islanders, ‘the teachers and the way they treat the children’ was a frequent comment. Parents expected a high degree of feedback from teachers, and they expected to have a relationship of mutual respect. Parents liked the way children learned new skills such as songs and stories, but learning to socialise with other children was equally important. Vietnamese parents were more

appreciative of the specific educational skills at preschool, such as maths and particularly English language skills, and the provision of interpreters. They also appreciated a clean, organised environment.

**Preschool Intervention Program**

Two successive cohorts of preschool children have been involved in the fully developed Pathways project (implemented in 2002 and 2003). Data were collected from 510 preschool children at the beginning and end of the school years. The average age of the preschool children at the start of their preschool year was 4 years 8 months. Program effects were examined in relation to children’s performance on a range of measures. In this paper reported scores are for:

- the Strengths and Difficulties Questionnaire – SDQ difficult behaviours (Goodman 1997), with teachers completing ratings of each of their students
- the Preschool Language Assessment Instrument – PLAI (Blank, Rose & Berlin 1978), on which children were tested by trained researchers
- teacher ratings on a 10-point scale of children’s readiness for school at the end of preschool.

Summary results are in Table 3. For clarity of presentation, behaviour and language results for the communication and social skills programs (implemented in four schools) are combined and compared with outcomes in the three comparison schools; intervention effect sizes are presented rather than means and standard deviations; and results are differentiated by gender where statistical analysis showed different trends for boys and girls. For school readiness, it was expected that skills such as language and social competence (and hence PIP participation) would contribute to children’s adjustment to school. However, it was also expected that preparedness for the transition to school would depend to a great extent on parental influences,

**Table 2: Community Insight Survey: parents’ perceptions of the characteristics of a good preschool**

Indigenous	Pacific Islander	Vietnamese
<ul style="list-style-type: none"> <li>• friendly teachers who care for children and treat them equally</li> <li>• cultural awareness</li> <li>• absence of ‘problems’</li> <li>• happy children</li> <li>• practical help for parents</li> </ul>	<ul style="list-style-type: none"> <li>• friendly and caring teachers</li> <li>• good resources</li> <li>• cultural diversity</li> <li>• strong relationships between parents and teachers</li> <li>• develops children’s social and educational skills</li> </ul>	<ul style="list-style-type: none"> <li>• friendly and caring teachers</li> <li>• educational skills (drawing, maths, reading)</li> <li>• English language skills</li> <li>• cleanliness, order and discipline</li> <li>• interpreters</li> </ul>

**Methodological note**

Analyses of covariance were used to assess program effects on children’s behaviour and language scores at the post-intervention assessment phase while statistically controlling for pre-intervention scores (and other factors such as sex and ethnicity). Effect sizes were calculated as the ratio of adjusted mean differences to the residual standard deviations. Since allocation to intervention or comparison groups was done at the school level, rigorous statistical analysis requires multilevel modelling (Goldstein 2003) with preschool class as the Level 2 unit and with PIP as a Level 2 variable. These analyses have been done using the Goldstein software MLWin and will be reported in subsequent papers. Results reported in this paper are consistent with the multilevel effects obtained, although if PIP effect sizes are calculated using the Level 2 residual standard deviation (which is appropriate given that PIP is a Level 2 variable) the effect sizes are even larger than those reported here. This is not surprising since with only 30 preschool classes in 2002 and 2003 large differences in outcomes between intervention and comparison classes are required for statistical significance.



**Table 3: Effects of PIP on child behaviour, language proficiency and readiness for school**

Measure	Intervention effect size	Interpretation
PLAI total language skills score	0.21*	PIP programs produced one-fifth of a standard deviation improvement in language skills greater than the 'normal' improvement over the year as measured in the control schools. This program effect is comparable to the difference between native English speakers and children for whom English is a second language. (ESL and native speakers improved equally in the program schools.)
SDQ behaviour difficulties:		
Boys	0.44***	For boys, PIP produced an improvement in teacher-rated behaviours more than four-tenths of a standard deviation greater than behaviour improvements in the control schools. For girls there was no difference between program and control schools in terms of behaviour changes over the year.
Girls	-0.02	
School readiness:		At the end of the preschool year both boys in PIP or boys whose parents were in FIP were rated by teachers as more ready for formal schooling than boys not involved in any Pathways program. The effect was substantial at nearly half a standard deviation. There was no significant intervention effect for girls.
Boys	0.46**	
Girls	-0.29	

\* p < .05 \*\* p < .01 \*\*\* p < .001

and hence potentially be influenced by FIP participation. For this reason the data presented for this measure are for any Pathways program involvement (PIP or FIP). The data in Table 3 suggest program effects ranging from moderate (0.2) to relatively large (greater than 0.4).

### Family Independence Program

During the first phase of the project (2001–2003) it was not possible to collect quantitative measures of parent characteristics and behaviour before and after the interventions. However, qualitative data in the form of interviews and case studies are available to illustrate the impact of FIP on parents and families.

As a result of attending FIP, relationships between families and schools improved, as did relationships between parents and children who regularly attended. Participants reported improved access to services, greater participation in church and other community groups, more attachment to community, an increased sense of belonging, inclusion in and strengthening of community networks, and greater connection with traditions and values. There was a consequent reduction in social isolation.

The main outcome derived by families attending FIP programs was the strengthening of family relationships and improved communication between family members. Data profiling the characteristics of participants shows that the service was used by some of the most vulnerable and difficult-to-reach families who were experiencing high levels of family adversity, dysfunction or stress (Freiberg et al. 2005). Participants also rated themselves (and their children) as having increased self-esteem and confidence, increased ability to help others to value themselves, improved ability to form and maintain relationships with other parents, and, increased personal sense of efficacy (knowing that you can do something and having the resources, knowledge, skills and support to do it).

### Conclusion

Perhaps the main lesson from the Pathways project is that it is possible to construct an ambitious intervention that achieves positive outcomes for children and their families. Results show that a community agency-university-schools partnership can achieve quite a lot if it is free to set its own directions based on

extensive practical experience and local wisdom as well as the best scientific evidence, even though the challenges seemed bigger as the project proceeded.

The Community Insight Survey shows that qualitative methods that involve local people can add a depth of understanding of family and community resources and barriers to institutional participation that is not easily provided by statistical risk profiles. While it would be expected that parents from different ethnic groups see the world differently, the data reveal subtle differences in expectations that are important to take into account in program planning. For example, the frequently and strongly expressed hope of Indigenous parents that problems would not occur for their children while at preschool reflects the reality that in practice many problems do occur. This underlines the need for types of support and advocacy that differ from those required by (say) Vietnamese parents, where language and 'orderliness' issues are paramount.

The quantitative outcomes for children after one year of involvement in the project provide some of the strongest evidence that multilayered interventions in school and community settings can influence developmental pathways. Although caution is required given the quasi-experimental nature of the research design, the data reported here and elsewhere (Freiberg et al. 2005; Homel et al. 2006) suggest intervention effects that are in line with or exceed international norms. The finding of equal impact on language skills of the preschool programs regardless of a child's home language is important since it suggests that a universal intervention can equally benefit high and lower risk groups. The fact that boys benefited more in terms of reductions in difficult behaviour and improved school readiness is encouraging as boys tend to experience more difficulties at school and become enmeshed in the justice system more

frequently. Girls generally were rated as better behaved and more ready for school than the boys, so within a universal framework the program appears to have targeted the most needy half of the population. Data from Grade 1 and beyond are needed now, addressing not only language and behaviour but school performance and attachment to school. This is a major focus of current work.

Another major focus of current work is assessing quantitatively as well as qualitatively the impact of the more sophisticated family support program that has been developed since the first project phase. Qualitative indicators of the early attempts were mostly positive, supported by data on levels of family adversity and the duration and intensity of program involvement that suggest that the Pathways team succeeded in engaging effectively with many families facing great hardship (Freiberg et al. 2005). Showing quantitatively how key indicators like parental efficacy vary by social context and family type, and quantifying the small steps along recovery pathways that program workers strive to achieve with families, should facilitate further refinement of the program and increase its attractiveness to funding agencies and policy makers.

There is no doubt that there is great interest nationally and internationally in the development of the scientific foundations of developmental prevention and community development. The Pathways project has proven influential, since many of its core ideas have been incorporated in the new national Communities for Children program

that the Prime Minister launched in April 2004 (using the Pathways video), and also in the policies and programs of state governments. The evaluation of state initiatives and of Communities for Children over the next few years will help in the assessment of whether multi-faceted developmental prevention programs in disadvantaged areas are scalable within a delivery and management framework that necessarily differs from that which has evolved for Pathways.

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