Nursing Praxis in New Zealand

THE B4 SCHOOL CHECK BEHAVIOUR MEASURES: FINDINGS FROM THE HAWKE'S BAY EVALUATION

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Abstract

The Before (B4) School Check is a free health and development check delivered by specifically trained nurses to four year old children throughout New Zealand, aimed to identify and address any health, behavioural, social or developmental concerns that could affect a child's ability to get the most benefit from school. Reported here are the results of an evaluation of the B4 School Checks in Hawke's Bay, focusing specifically on children assessed at the B4 School Check with behaviour issues as determined by the Strengths and Difficulties Questionnaire (SDQ).

Health Hawke's Bay (HHB) records were reviewed to understand the number and demographics of the children assessed with behaviour issues at the B4 School Checks up to 31 August 2011, and the interventions to which they were referred. Telephone Interviews were conducted with 36 parents/caregivers of these children to address the questions, what difference did the B4 School Check make to children assessed with behaviour issues and what aspects of the B4 School Check delivery contributed to successful outcomes for these children?

Results showed that child behaviour issues in Hawke's Bay were identified in more boys than girls and concentrated in more deprived families. Māori children were represented in numbers disproportional to the regional population. The majority of referrals for child behaviour directed parents/caregivers to non-governmental organisations for family support and parenting programmes.

Thematic analysis was applied to the qualitative data derived from the interviews with parents/caregivers and results indicated high levels of satisfaction with the B4 School Check for behaviour and the referred outcomes. Implications for nursing practice arise from these findings in that they identify factors which contribute to what does and does not work well for achieving successful outcomes from the B4 School Check for behaviour.

Keywords: Before (B4) School Checks; child behaviour; nurse evaluation; parenting support

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Background

The B4 School Check is a free health and development check delivered to four year old children throughout New Zealand (Ministry of Health, 2008). It aims to identify and address any health, behavioural, social or developmental concerns that could affect a child's ability to get the most benefit from school. It is the eighth core contact of the Well Child/Tamariki Ora Schedule of services and replaced the New Entrant Check that was offered in some areas of the country.

Delivery of the B4 School Check started in four District Health Board (DHB) regions (Waikato, Nelson Marlborough, Mid-Central and Lakes) in June 2008. The remaining regions, including Hawke's Bay, commenced delivery in September 2008. A year later the B4 School Check programme in Hawke's Bay was recognised as one of the more successful in terms of the numbers and efficacy, with 1,848 checks completed, representing 84% of all eligible 4 your olds and 75% of those from the most deprived areas (Wills, Morris Matthews, Hedley, Morris & Freer, 2010).

The B4 School Check includes height and weight measurements, vision and hearing checks, an oral health assessment, immunisations, and general health, development and behaviour questionnaires. Nurses who conduct the checks are required to have completed the compulsory, locally provided B4 School Check training programme. B4 School Check nurses provide advice and support for parents in relation to their child's health and development and make referrals to specialist services if concerns are identified that require further attention. The checks usually occur within general practices and health centres. On rare occasions they may take place with parents in attendance in early childhood centres, community centres, marae and in mobile vans. Some primary health providers, particularly Māori health service providers, contract nurses to reach underserved populations by visiting them in their homes (Cameron, 2011; Petkovich, 2011). Results of Wills et al.'s (2010) evaluation showed that ten months after the first nurse training, the B4 School Check in Hawke's Bay was beginning to demonstrate some of the desired outcomes, such as high rates of completed checks and a stable high rate of referrals. Increased confidence in the use of the measures for child development and behaviour was also noted (Wills et al., 2010).

Reported here are the results of the second phase of evaluation funded by the Hawke's Bay Children's Holdings Trust to assess the outcomes of the B4 School Check programme in Hawke's Bay. This evaluation focused specifically on children assessed at a B4 School Check with behaviour issues as determined by the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1999). Children who are identified through this instrument as exhibiting problematic behaviour are referred by the B4 School Check Triage team for appropriate intervention which could be, for example, to Children and Adolescent Mental Health Services, Ministry of Education Early Intervention Service, non-governmental organisation (NGO) for parenting skills programmes or other social services. The evaluation aimed to track some of these children in the Hawke's Bay region over two years to help determine the outcomes of the B4 School Check for child behaviour and what differences the checks have made (Thompson, Morris Matthews, Stockdale Frost, Pentecost & Wivell, 2011).

Review of literature

Child behaviour in New Zealand

Research published from the longitudinal child development study of the Dunedin Multidisciplinary Health and Development Unit reported that behavioural difficulties identified in children at the age of three had escalated by the age of nine (Silva & Stanton, 1996). A similar study conducted by the Christchurch School of Medicine and Health Services

found that conduct problems identified in children at age five were highly predictive of poor educational outcomes at school leaving, and that 70% of the adults in the study with significant mental health issues had conduct problems in early childhood (Polland & Legge, 2005). Wylie and Hogden's (2007) study reported that one in five students in Hawke's Bay primary and intermediate schools behave in ways that lead to dangerous outcomes or learning impairment, and that rates of severe behaviour were higher in low decile schools and among boys at Year 7 and 8. This study also found that Hawke's Bay primary and intermediate school children had a higher average of cases of severe behaviour disorder (7%) as compared with the national average of 5%. While the terminology used to describe children's problematic behaviour varies, such as 'conduct problems' (Polland & Legge, 2005), 'severe behaviour disorder' (Wylie & Hogden, 2007) and 'severe behaviour difficulties' (Gunning, 2008), concern for such behaviour in New Zealand schools has been long term and widespread (Church, 2003; Gunning, 2008; Rae, 2006).

The B4 School Check and SDQ tool

The B4 School Check Handbook for Practitioners defines the evaluation of children's emotional and behavioural development as a central component of child health assessment (Ministry of Health, 2008). The SDQ tool specified for this part of the B4 School Check asks about a child's emotional attributes, conduct, hyperactivity, peer relations, pro-social behaviour and how a child's behaviour difficulties impact on his or her life. It was selected for the B4 School Check because it is widely used and accepted by people working in child health, is quick and simple to score, is sensitive and specific, and free to download. While the SDQ has not yet been evaluated for predictive validity specific to New Zealand, the questions have been well tested and known to be valid for a general population in other parts of the world (Goodman, 1997; Goodman, Meltzer & Bailey, 1998). A test of its reliability and validity for use with West Australian Aboriginal children found that, overall, ". . . the SDQ Total Score provides a reasonable measure of mental health and well being in Aboriginal Australian children and young people . . ." (Zubrik, Lawrence, de Maio & Biddle, 2006, p. 46). Greater sensitivity is achieved when a child's parent and teacher respectively complete the SDQ-P and SDQ-T questionnaires (Ministry of Health, 2008). Evidence shows that parents can accurately identify socio-emotional and mental health issues in their children, and asking them to do so has the advantage of involving them in further management of the issues (Ministry of Health, 2008; Tsiantis, Smith, Dragonas & Cox, 2000).

An evaluation of the pilot B4 School Check programme trialled in Counties Manukau and Whanganui DHBs reported that, of all the tests, the SDQ had the lowest rate of referral at 1.4% (CBG Health Research, 2007; Ministry of Education, 2008). Phase one of the Hawke's Bay B4 School Check evaluation found SDQ referrals to be similarly low in the initial year of the checks at 4% of all referrals (Morris Matthews, Wills, Mara, Stockdale Frost & Kirkpatrick, 2010). Some of this could be explained by the fact that many of the SDQ measures for behaviour were instead recorded as the behaviour component in the Parent Evaluation of Development Status (PEDS) measure for growth and physical development. A study of nurses' perceptions of the B4 School Check implementation (Kirkpatrick, 2010) indicated more emphasis was placed on the PEDS measure which nurses felt more confident interpreting. In the second year of B4 School Checks in Hawke's Bay, however, referrals for behaviour resulting from the SDQ had risen threefold to 12% of all referrals (Wills et al., 2010).

Method

The evaluation reported here focused on Hawke's Bay children who, up to 31 August 2011, had scored a total of 15 or higher on the SDQ at the B4 School Check and

had been subsequently referred for intervention. It sought to address two questions:

- What difference did the B4 School Check make to children assessed with behaviour issues?
- What aspects of the B4 School Check delivery contributed to successful outcomes for these children?

Research design

The evaluation draws on quantitative and qualitative data. The quantitative data was derived from Health Hawke's Bay (HHB) records which showed that, up to 31 August 2010, a total of 120 children had scored 15 or higher on the SDQ measure and a further 199 had done so during the following year up to 31 August 2011. These records were reviewed to better understand the demographic composition of this group of children and the services to which they were referred.

Qualitative data was derived from semi-structured interviews conducted by telephone with 36 parents/ caregivers drawn from the list of 120 children identified with behaviour issues up to 31 August, 2010. These parents/caregivers were drawn systematically from the list and the final number included those who had a clear referral pathway recorded for their child, had not refused the referral, whose telephone contact details were found to still be accurate, who were contactable within seven attempts, and who had agreed to be interviewed. Data saturation was determined after 32 interviews and a further four were conducted to complete those who by that time had already been contacted and given consent.

Parent/caregivers were contacted by telephone and those who agreed to participate in the evaluation were mailed further information and a consent form to be signed and returned. The interviews were then conducted via a follow-up phone call. Parents/ caregivers were asked for their views about what happened during and after their four year olds' B4 School Check and what had been the outcome of the intervention to which the child was referred. Thematic analysis was applied to the interview data (Thomas, 2006), and peer analysis checking (Annells & Whitehead, 2007) was accomplished within the research team.

Ethics

A full review application for research approval was submitted to the Health and Disability Ethics Committee for the Central Region and was granted (Ref. CEN/10/05/014). In addition the research was reviewed and approved by EIT (Eastern Institute of Technology) - Hawke's Bay's Research Ethics and Approvals Committee. Requirements of these committees regarding ethical treatment of research participants were followed. Interview participants were adults who gave fully informed consent. Confidentiality was assured and anonymity maintained by removing names from all data and using allocated numbers when reporting results.

Results and Discussion

The children

In the year of the B4 School Checks in Hawke's Bay to 31 August 2010, a total of 120 children scored 15 or higher on the SDQ. During the following year to 31 August 2011, this number had increased by 79, with a total of 199 children scoring 15 or higher on the SDQ. This number (199) represents 8.5% of the total 2,342 four year olds eligible for the B4 School Check during that one year period.

A demographic analysis of the children identified with behaviour issues over both years shows that 63% were boys; 37% were girls. Figure 1 presents the ethnic backgrounds of the children, showing Māori children over-represented in proportional to regional population at 47% (from HBDHB (2010) projections Māori comprised 24.5% of the Hawke's

Bay population), and NZ European children comprised 43%. Figure 2 presents the deprivation levels of the children's family backgrounds expressed in quintile measures (Salmond, Crampton & Atkinson, 2007). It shows most of the children identified with behaviour issues were from more deprived families, including 48% in Quintile 5 (the highest measure, indicating most deprivation).

Further data provided by HHB for the year to 31 August 2011 indicate the broader extent of child behaviour issues in the region. Along with the children referred with an SDQ scores of 15 or more, a further 632 children were recorded with marginally high overall SDQ scores (12-14), or high specifically for conduct, but who were not referred. These cases, when added to the 199 who did receive referrals, represent one third of Hawke's Bay's entire 2010-2011 cohort of four year olds.

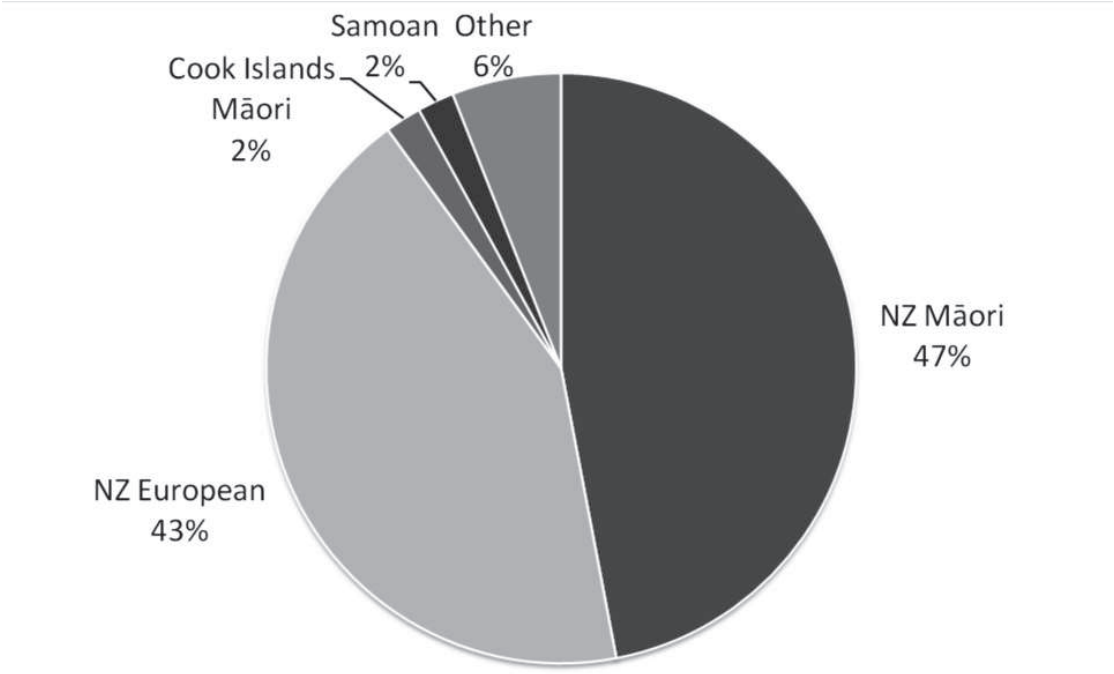

Figure 1: **Children referred for behaviour issues by ethnicity.**

Referrals

Hawke's Bay children assessed at a B4 School Check with high SDQ scores are reviewed by the inter-agency B4 School Check Triage team who determine the most appropriate referral pathway for each child. The research found that the majority of the cases reviewed for behaviour received referrals that were directed to the child's parents or caregivers for assistance with parenting, suggesting that the child's behaviour was perceived as stemming mainly from child management or family relationship issues for which support for the parents would best benefit the child. Eighty-five (71%) of the children identified up to 31 August 2010 were referred to one of three Non-Government Organisations (NGOs) providing parenting services for families in Hawke's Bay. A further 10 cases were listed as either enrolled in or on waiting lists for Incredible Years programmes. Smaller numbers were referred to either the Ministry of Education (MOE) services or to appointments with a paediatrician, child psychologist or Public Health Nurse. Fourteen cases (11.7%) were recorded as having parents who declined the referral.

Analysis of the children listed as assessed with 15 or higher SDQ scores during the year to 31 August 2011 reveals greater detail and clarity in HHB's records of children assessed with behaviour issues, indicating an enhanced capacity a year later of the B4 School Check Triage team to refer these children to appropriate services and of the administration's ability to track and record a child's progress in the B4 School Check programme. Fifty-seven cases (28.6%) were recorded as needing 'no further action', meaning they had been triaged and appropriate action had resolved the issue. Another 36 cases (18%) were recorded as 'under service' meaning these children were known to health services prior to the B4 School Check and already under the care of a health care agency.

Again, the greater proportion of referrals for behaviour (23.6%) was to three key NGOs providing family support services in Hawke's Bay, although this is a much lower percentage than for the previous year. Referrals were also made to Māori providers and regional services. The most notable increases were referrals to MOE services (10%) and to named Public Health Nurses (5%). A further 36 children (18%) had parents who declined the referred intervention or were recorded as 'non-engaged'.

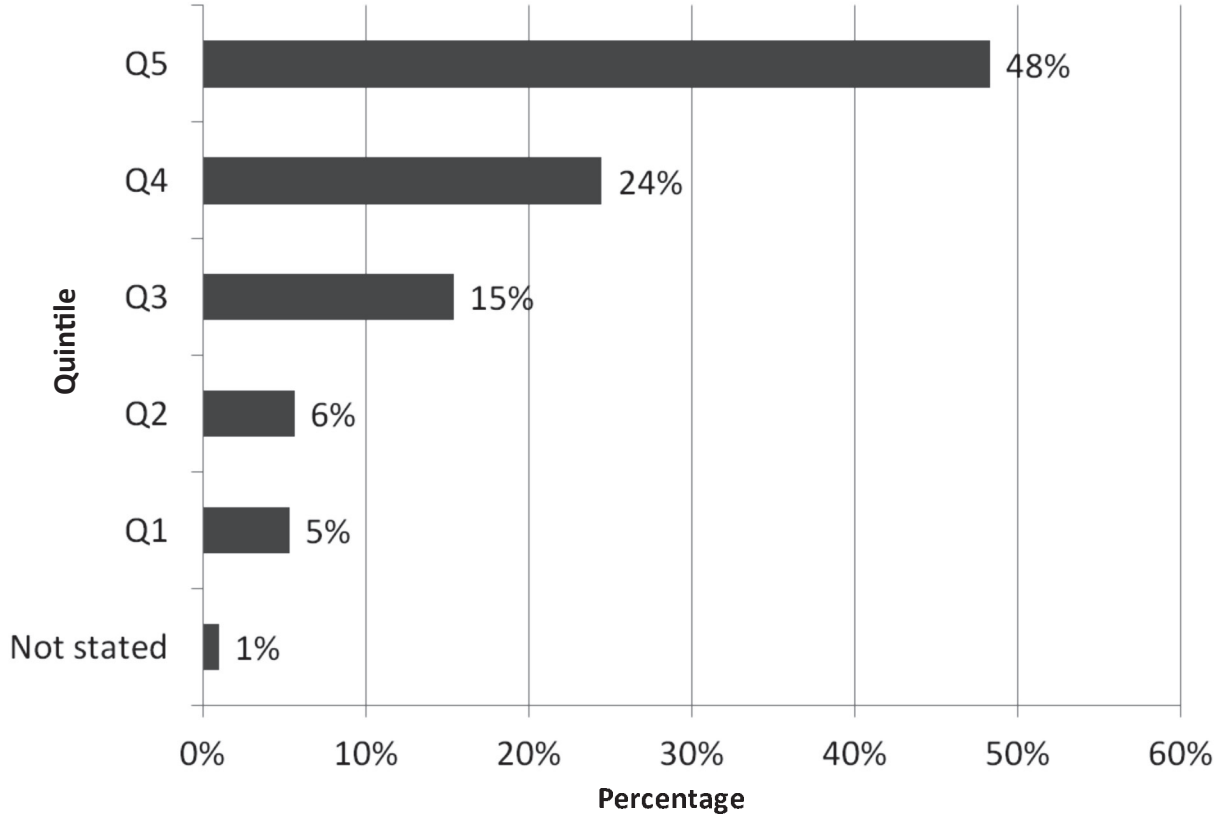

Figure 2: **Children referred for behaviour issues by quintile measure of deprivation.**

Parents'/Caregivers' responses to the B4 School Check for behaviour

Parents/caregivers of children assessed with behaviour issues and receiving referrals were interviewed to find out their impressions of the B4 School Check programme and what had been the outcomes. Of the 36 parents interviewed, 28 (77%) stated that they agreed with the B4 School Check nurse's assessment of their child's problematic behaviour. Many parents were glad to have had their own concerns about their child affirmed. Responses to the question asking what they thought of the SDQ assessment of their child

included: *It was right* (112); *It was a great relief* (59); *It made sense* (83); *It was not a surprise* (110); *I expected this result* (33); *It was reassuring. I thought, 'Yeah!' when I got out of the interview* (90).

Some praised the B4 School Check nurse specifically:

> *They asked the right questions at the B4 School Check, and the nurse actually saw the behaviour (83).*
>
> *It was great. The nurse didn't blame me. She said you're right to have concerns (28).*

Overall, the majority of those interviewed spoke positively of the B4 School Check for behaviour with comments such as:

> *Wonderful to have the chance to correct anything that is wrong before he goes to school (44).*
>
> *Fantastic. If it wasn't for that nurse, what would have happened? (28)*

Cases in which the interviewed parents did not speak positively of the B4 School Check stemmed mainly from problems related to rapport, respect and communication between the nurse and the parent. Two issues came up repeatedly. The first related to miscommunication. Some parents interviewed could not recall the SDQ part of the B4 School Check, did not agree with the assessment of their child or understand why a referral had been initiated, and/or appeared unaware that any concern for their child's behaviour had been recorded. One parent, who did not engage in the intervention, said: *Can't recall anything being said* [at the B4 School Check]. *The phone call from* [NGO] *was a real shock* (93). Miscommunication also led to unfulfilled expectations: *I thought the nurse was going to* [refer me to somewhere for help] *but I didn't hear from anyone. Too late now,* [Child's name] *at school* (96).

The second issue highlighted the sensitivities surrounding health professionals' judgements of parenting practices. Parents responded negatively to the B4 School Check for child behaviour if they perceived they were being judged and blamed for their child's behaviour. One, who explained that she was neither offered nor had engaged in a parenting support programme following the B4 School Check, said of the nurse: *She more or less said it was bad parenting. I was devastated. I went to my foster mum's after and had a real howly-bag about what* [the nurse] *said* (21).

One case, in which both these issues coalesced, had long term consequences. A mother explained that her husband had taken their 4-year-old to the B4 School Check because she was unwell and had a younger child. The subsequent and unexpected phone call from an NGO representative regarding a referral for the four year old's behaviour so surprised and affronted both parents that the child's father, concluding from it that he had been judged a 'bad father', remained reluctant to take either of the children to any other health care service.

Outcomes of the B4 School Check referrals for behaviour

Twenty five (69%) of the interviewed parents and caregivers reported that their child's behaviour, identified as problematic at the B4 School Check, was now much improved or improving. Four had been dealt with as a medical issue and a further four through speech and language therapy. Typically, however, those interviewed described the intervention to which they had been referred as being parenting assistance provided by an NGO representative who visited them at home and delivered up to ten family support sessions. These the interviewed parents regarded as helpful, providing practical 'tips' on how to manage their child's behaviour or how to more effectively parent to prevent the behaviour occurring. Most were accounts of change, affirmation and enhanced confidence in parenting practices. For example, one said:

> *I was a jellyfish parent, now I'm a backbone*

parent. I'm proud of that (4).

Another, who had recently acquired the role as full-time sole carer of his three children, described himself as:

> *having turned into a Dad*. ... C*hanged* [my] *whole lifestyle..., cutting out parties, regular meals for me and the kids, routines* (33).

Some parents referred to the stresses they were under and how the agency sought to assist. One said: *I could have easily walked away, it was that bad...* [NGO] *helped. They took the two (older) boys to health camp so I could put the time into her. It was a real big help* (4).

Overall the parents who had engaged with the referral agency praised highly the support services they had received. Comments included:

> *I wish I'd known sooner that you could get that sort of support, wish I'd had it sooner (65).*
>
> *It was good because I thought I was alone and doing it all wrong (119).*
>
> One immigrant to New Zealand observed, *It's a great process to follow up on children like this. Nowhere else in the world would it happen (91).*

On the other hand, eleven of the 36 interviewed parents did not describe the outcome of the B4 School Check as having brought about changes in their child's behaviour. These were mainly parents who did not associate the B4 School Check with any follow-up assistance or did not engage in a referred intervention for a variety of reasons. Comments included:

> *'Incredible Years' rung but I couldn't go on the morning it was held (70).*
>
> *Nothing has happened because* [the child's mother] *won't give permission (69).*

Others commented on not receiving the assistance they expected:

> *The form was lost, either by the nurse or* [the NGO] *and so the appointment was eight or nine months later. By then the problem was resolved but basically, no support, it was useless (40).*
>
> *Nothing happened. No referral, no agency contacted us. I would have liked more help (15).*

Implications for nursing practice

The findings of the evaluation, especially the qualitative data derived from interviews with parents and caregivers of children identified with behaviour issues, have highlighted factors which contribute to the efficacy of the B4 School Checks and successful outcomes for child health and education. These have implications for nursing practice in that they provide clear indicators for nurses and administrators of the B4 School Check programme regarding what does and does not work well for the successful delivery and referral outcomes of the B4 School Checks for behaviour. These are listed below.

The B4 School Check for behaviour is more successful when:

- There is clear communication at the B4 School Check between the B4 School Check nurse and the parent/caregiver.
- There is agreement between the B4 School Check nurse and the parent or caregiver regarding the assessment of the child's behaviour.
- Parents or caregivers are affirmed and supported in their parenting practices.
- Follow-up by the referral agency is prompt.
- The referral agency visits the family in their home to observe family interaction.
- Parenting support and practical guidance is given, tailored to the age and needs of the child.
- The referral agency recognising when other assistance is required and helps to facilitate it.
- The referral agency assists the child's transition to school when ongoing help is needed.

The B4 School Check for behaviour is less successful

when:

- There is lack of clarity during the B4 School Check, leaving the parent or caregiver confused about the purpose and outcome of the SDQ measure.
- There is little or no agreement between the parent or caregiver and the B4 School Check nurse regarding the child's behaviour.
- Parents or caregivers perceive they are being blamed for the child's behaviour.
- Parents or caregivers decline the referral or do not engage in the intervention offered.
- There is conflict between a child's parents or caregivers.
- Follow-up contact by the referral agency is not soon enough after the B4 School Check or does not occur at all.
- The referred intervention is unable to be accessed by parents or caregivers.
- The referral agency is unable to satisfactorily deal with the issue and is not able to involve another, more appropriate, service.

Limitations

A limitation of this research stems from the difficulties the research team experienced trying to contact the parents or caregivers of the children to invite them to be interviewed. The researchers depended upon telephone contact and in many cases this mode proved highly unreliable. The instability and unreliability of contact details for some families suggested that these children may be the more complex and unresolved cases, however their voices are absent from the findings. The difficulties faced by B4 School Check health care workers in reaching underserved populations (Cameron, 2011; Kirkpatrick, 2010; Petkovich, 2011; Tuahine, 2010) were similarly experienced during this research.

A further limitation of the evaluation is the lack of a repeat SDQ assessment of the referred child post-intervention once the child is at school. While this measure was originally planned in the research design, funding and timing issues prevented its execution. Both these limitations could be addressed through further research.

Conclusions

Hawke's Bay schools have identified child behaviour as a significant education issue (Wylie & Hogden, 2007) and other research has shown the ways by which it can impact on a child's ability to get the most from their schooling (Silva & Stanton, 1996; Webster-Stratton & Reid, 2004). The purpose of the B4 School Check for behaviour is to identify child behaviour that would impede healthy progress and to facilitate by referral an intervention to address this problem. The New Zealand Ministry of Health (2008) acknowledges the significance of child behaviour as a health issue worthy of inclusion as a measure in the B4 School Check. This evaluation of the B4 School Check for behaviour has shown that the procedures most likely to make a difference for children begin with the B4 School Check nurses' confident and competent use of the SDQ and clear non-judgemental communication with the child's parent or caregiver. This is followed by appropriate referred intervention initiated by a dedicated triage team, and delivered in a timely and holistic manner by the referral agency. It also indicates the extent to which child behaviour issues are assessed as being embedded in family environments and parenting practices, potentially impacting also on the health of struggling caregivers and siblings. To address these issues, the B4 School Check triage team relied heavily on NGOs to implement the necessary intervention.

The Hawke's Bay evaluation highlights the critical role of the B4 School Check nurse, and also the reliance of the B4 School Check programme on NGOs and other social agencies to achieve successful outcomes for children assessed with behaviour issues. The B4 School Check

programme in Hawke's Bay is helping health services to forge strong cooperative and trusting relationships with non-governmental and other agencies. On-going evaluation of the programme has identified areas of strength and where improvements can still be made (Morris Matthews et al., 2010; Thompson et al., 2011; Wills et al., 2010). Overall, evaluations are showing that the B4 School Check programme is making a difference to children in Hawke's Bay and helping to address inequalities based in ethnicity and economic deprivation.

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