MENTAL HEALTH IN NEW ZEALAND FROM A PUBLIC HEALTH PERSPECTIVE

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CHAPTER 19: CONDUCT DISORDERS

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The reduction of conduct disorder (CD) represents one of the major challenges for preventive psychiatry in the twenty-first century. The costs of the disorder, in terms of financial costs to the state, risks to public safety and plain human misery, are enormous.

It is important to distinguish between CD and delinquent or simply defiant behaviour. The accuracy of the diagnosis of the disorder is still being refined, but over the past two decades major studies of the disorder and its treatment have been undertaken throughout the world (Rutter et al 1970, 1974; Offord et al 1992). Two of the most significant developmental studies have been undertaken in New Zealand (McGee et al 1992; Fergusson et al 1994; Fergusson and Horwood 1996). Yet systems for dealing with young people with the disorder in New Zealand are rudimentary indeed. Those that exist are based on the Children, Young Persons and Their Families Service (CYPFS) and the Specialist Education Services. Specialist mental health services run by Crown health enterprises for children, adolescents and their families (CAFS) assess young people with CD. However, because they do not have the facilities to deal with the behavioural challenges of individuals with CD, they tend to offer advice to agencies such as CYPFS, rather than treatment.

Primary prevention programmes addressing the needs of high-risk families in New Zealand have been developed over the past decade. However, they have either failed to receive ongoing or adequate support (eg, Acorn Club in Dunedin) or are in the very early stages of development (eg, Healthy Schools, Early Start in Christchurch, Naku Enei Tamariki in Lower Hutt).

In New Zealand, prevention has received as little emphasis in child and adolescent psychiatric services as in adult psychiatric services. This may reflect the extreme underfunding of child and adolescent services and also the difficulties of establishing co-operative policy development across a number of government sectors. Nevertheless, efforts must now be directed towards the prevention of child and adolescent psychiatric disorders, particularly conduct disorder.

This chapter defines conduct disorders, addresses their prevalence, reviews their major known causes and identifies strategies for their reduction in terms of primary, secondary and tertiary prevention. Reflecting the focus of this report, primary and secondary prevention are emphasised. Primary interventions are generally directed at younger children and are less ‘clinical’, and so less focused on individualised treatment programmes and residential treatments. To indicate the range and complexity of primary and secondary interventions, more detailed reference is made to key papers illustrating these, rather than to tertiary programmes. It will be apparent that all levels and types of prevention overlap with each other. This has important implications for programme development in New Zealand. In essence, successful programmes are those that are comprehensive, long term, well co-ordinated and well resourced.
DEFINITIONS

Definitions of conduct disorder are found in the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (APA 1994) and in the *International Classification of Diseases* version 10 (*ICD-10*) (WHO 1992). They are part of a range of disruptive behaviour disorders that within the *DSM-IV* include attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder.

Although there are differences between the classification systems, CD is generally accepted as representing a constellation of antisocial behaviours in which the key factors are a repetitive and persistent violation of major age-appropriate social norms and the basic rights of others.

PREVALENCE

Conduct disorders are among the most common mental disorders in young people, with approximately 5 percent of 11-year-olds meeting diagnostic criteria (Rutter et al 1970; Offord et al 1986). CD is about three times more common in boys than girls.

Studies in New Zealand such as the Dunedin Longitudinal Child Development Study found a rate among 11-year-olds of 3.4 percent with male to female ratios similar to those found in overseas studies (Anderson et al 1987). By age 15, the rate had risen to 7.3 percent (McGee et al 1992). At the age of 18 the rate was 5.5 percent (Feehan et al 1994).

Little is known of the prevalence of CD in Māori and Pacific people. However, rates of violent offences are higher among Māori youth. Among 18-year-olds in Christchurch, Māori had a rate three times greater than non-Māori (Fergusson et al 1994). However these differences diminished considerably when adjustment is made for socioeconomic status (SES).

Urban/rural differences in rates have ranged from a two-fold difference in Rutter’s study of inner London youth (Rutter et al 1975) to a barely discernible difference in the Ontario study (5.6 percent compared with 5.2 percent) (Offord et al 1986).

NATURAL HISTORY

The precursors of CD are recognisable by the age of three with clear indications of the disorder being seen in preschool and primary school behaviour. Aggressiveness towards peers, temper tantrums, destruction of property, cruelty towards animals, and social isolation are all indications of more serious later behaviour. These behaviours are worsened by marginalisation from pro-social peers, association with antisocial others, alienation from the standards and practices of societal institutions, substance abuse, school failure and involvement with welfare and justice agencies.

Kazdin (1993) comments that ‘children with CD are likely to show academic deficiencies’ whereas youth with CD are ‘likely to evince poor interpersonal skills in relations to peers and adults with higher levels of peer rejection’. The distinctions are certainly not mutually exclusive; however, antisocial behaviour generally worsens with age.

Studies by Robins (1966) indicate that 50 percent of children diagnosed with CD develop antisocial personality disorder as adults. In the Ontario and New Zealand studies, CD showed considerable stability over time (McGee et al 1992; Feehan et al 1993; Hechtman and Offord 1994). The Ontario study showed 45 percent of those with CD being so diagnosed at follow-up after four years. In the Dunedin study, 80 percent of the sample diagnosed with CD at 15 were found to have the disorder at 18.
There are high levels of comorbidity with CD. Recent studies have shown an overall relationship with substance abuse and, in females, with depression and anxiety (Robins and Price 1991). Approximately half of the young people in the Dunedin study who met diagnostic criteria for one disorder also met criteria for another disorder (Anderson et al 1987). Attention-deficit/hyperactivity disorder coexists with CD in 45–70 percent of cases (Kazdin 1993).

CD may be associated with premature death (Yeager and Lewis 1990). In a follow-up study of 118 incarcerated delinquents, the rate of death was 58 times the expected rate. Suicide is common, as are deaths due to motor vehicle accidents.

**RISK FACTORS**

Changes in the diagnostic criteria of conduct disorders have meant that some risk factors have not been specifically evaluated according to more recent refinements. Therefore, the literature encompasses a range of conditions that overlap with conduct disorder. The pioneering epidemiological work of Rutter and his colleagues in their Isle of Wight and inner London studies (1970, 1975) is a case in point, covering a wider range of disorders than those specifically referred to in contemporary diagnostic systems.

Notwithstanding this, a great deal of knowledge has been gathered defining the factors that are associated with serious persistent disorder and offending behaviour. Studies using both survey and laboratory approaches have become increasingly sophisticated. As indicated, some of the most important longitudinal surveys have been carried out in New Zealand by groups in Dunedin and Christchurch (Silva 1990; Fergusson et al 1994).

**EXTRINSIC FACTORS**

**Family**

Factors relating to parents and parenting are among the most important in the development of CD. The ways in which they operate are still being established.

In general, CD is associated with large families who live in disadvantaged circumstances. However not all such families have children with CD, and CD is also found in children from families of higher socioeconomic status.

CD is associated with marital discord and divorce. It is also associated with solo parenting, but it appears that marital discord is the more potent factor than divorce itself or the numbers of parents in a family. Separation from parents through loss or illness is weakly associated with CD.

Factors relating to the quality of parenting appear more significant than marital discord or solo parenting. In particular, hostile and/or rejecting parenting, combined with a lack of supervision, have a direct impact on the children over and above the structural variables mentioned above (Loeber and Stouthamer-Loeber 1986; Yoshikawa 1994). Similarly a history of parental criminality, substance abuse and/or psychiatric disorder is strongly associated with CD.

Some of these effects are thought to be mediated through attachment mechanisms where insecure attachment is developed in the context of insensitive and/or rejecting parenting responses (Campbell 1990). Other models specify developmental and social interactional paradigms (Patterson et al 1989).
Considerable attention has been paid to the impact of stress in early life on the developing child. Children exposed to extreme emotional onslaughts through domestic violence and abuse are likely to develop disturbed autonomic nervous system functioning and impaired social skills. In turn, this can result in the excessive use of aggressivity as an interpersonal strategy. Lack of empathy for victims increases the likelihood that their rights and feelings will go unheeded and result in unmodified violations of their person and property.

Patterson and his colleagues (1989) at the Oregon Learning Center have been particularly influential in the study of the interpersonal dimensions of CD. The reinforcement of aggressive behaviour escalates through exposure, shaping and modelling behaviour of parents with their children (Patterson et al 1989). Highly aggressive children are more likely to attribute hostile intent to the actions of others in social encounters than non-aggressive children (Dodge 1980; Slaby and Guerra 1988). The mechanisms whereby family violence and parental psychiatric disorder have their impact on the developing child are related to these types of processes. Extreme family violence including physical and sexual abuse have been shown to increase the chances of becoming delinquent from 5 percent to 20 percent (Lewis et al 1989).

**Community**

Disadvantaged, socially stressed families who are of low socioeconomic status and live in highly populated and deprived urban areas are more likely to produce children who become delinquent and who have CD. The mechanisms that mediate these stresses through the family are likely to be the same as those cited above. Nevertheless, delinquency and CD are not inevitable outcomes. It is interesting that there is considerable variation in levels of juvenile crime between adjacent neighbourhoods. Likewise, low socioeconomic status or abuse does not predict offending. In fact, the majority of people thus affected do not offend or develop CDs.

Processes that lead alienated youth to band together in antisocial activities are complex but important in the maintenance and development of CD for some young people. The earlier version of the *DSM-IV* (*DSM-III*) specifies separate categories of socialised and unsocialised CD, drawing distinctions between those young people who have sufficient social skills to group together, albeit for reasons that set them against the wider community, and those whose antisocial behaviour is more solitary (APA 1980).

**Intrinsic Factors**

**Perinatal**

Perinatal risks such as prematurity, low birthweight, anoxia, and other medical stresses at birth, such as infections and birth trauma, have been associated with parent and teacher ratings of behaviour problems (McGee et al 1984) and delinquency (Mednick et al 1988). All longitudinal studies have shown that adverse perinatal factors interact with family factors.

**Genetic**

The evidence for genetic influences in the development of conduct disorders is not substantial, because CD as currently conceptualised has not been the subject of twin or adoption studies (Earls 1994). It is likely that multiple genetic factors may contribute predisposing personality and temperament characteristics (Barker 1995).
Twin and adoption studies of adult criminality (Christiansen 1977a, 1977b; Mednick et al 1983) indicate genetic factors play a role in some aspects of serious offending. Interactional effects between genetic and environmental factors (see below) can increase the likelihood of adult criminality by up to four times. In general, genetic influences in the development of CD are less significant than environmental factors (DiLalla and Gottesman 1991; Rutter 1991).

Sex

A substantial preponderance of males over females are classified as having CD. The ratio generally has been found to be in the order of 3:1 (Rutter et al 1970). Ratios of 3.2:1 have been identified in New Zealand 11-year-olds (Anderson et al 1987). Similar ratios were observed in the Ontario Child Health Study (Offord et al 1986).

The male preponderance relates to both biological and psychosocial factors. There is, however, debate over which is more influential. Studies of the effects of the male hormone testosterone have received a lot of attention. Equally however, the harmful effects of male sex-role socialisation emphasising physical prowess and the resolution of conflict by aggressive non-verbal means, are significant. Female children of West Indian parents, socialised to be more dominant than their counterparts in other societies, display delinquency rates comparable to their male peers (Rutter et al 1974; Rutter and Giller 1983).

Temperament and Physiology

Temperament covers a range of behavioural and physiological response patterns. These include activity, rhythmicity, approach or withdrawal, adaptability, threshold of responsiveness, intensity of reaction, quality of mood, distractibility, attention span and persistence (Chess and Thomas 1991). While distinct combinations of these factors are found in individuals, three main constellations have been defined. Of these a configuration defining a group of ‘difficult children’ show:

- irregularity of biological functions
- negative withdrawal responses to new stimuli
- non-adaptability or slow adaptability to change
- intense mood expression that is frequently negative.

Doubts exist about whether temperament is an interactive factor (ie, a consequence of interaction with caregivers and others) or a phenotypic expression of a genotype (Bates 1980; Plomin and De Fries 1983). However such patterns of temperament are important because they may evoke negative responses from caregivers, particularly those under stress (see below). On the other hand they may provide a physiological basis predisposing some individuals to antisocial behaviour.

Kagan and Snidman (1991) described uninhibited and inhibited ‘bio-behavioural’ profiles. These were characterised in the case of the former by lack of fear and high degrees of approach, sociable interaction in combination with low heart rates and relatively low levels of circulating cortisol. This profile of ‘physiological underarousal’, corresponding to Gray’s (1987) model of a ‘behavioural inhibitory system’, has been supplemented by findings of decreased amplitude, slow recovery of skin conductance and excessive slow activity in the electroencephalograms of those with the uninhibited profiles (Raine et al 1990).
The search for the biochemical substrate to these findings is an active one. For example, a recent study seeking to define the impact of early abuse on children found low levels of dopamine-beta-hydroxylase in a group of ‘undersocialised’ boys with CD who had been abused before the age of three (Galvin et al 1991). Other research has shown that boys with anxiety disorder and CD have higher levels of circulating cortisol than those with anxiety disorder or CD alone (McBurnett et al 1991).

**Cognition**

While cognitive factors are undoubtedly associated with delinquency and CD, the specific contribution they make in the development and expression of conduct disorder remains to be defined. Associations are found, on the one hand, between low school achievement and delinquency and, on the other hand, with low verbal ability, reading problems and offending behaviour (Walsh et al 1987). Moreover, lower IQ has been found to be associated with aggressive and repeat offenders (Farrington 1987).

Whether cognitive deficits precede, and therefore have a direct relationship with, the development of antisocial behaviour, is a matter of speculation as are the internal effects of aggressive emotion on the nervous system.

Impaired frontal lobe functions are found in a majority of delinquents compared with 11 percent of non-delinquents (Yeudall et al 1982). Frontal lobe deficits such as an inability to plan, to redirect potentially harmful behaviour and to learn from the negative consequences of behaviour, may be more important than decreased verbal skills (Earls 1994). However, the associations are complex and require more research.

**RELATIVE INFLUENCE OF AND INTERACTIONS BETWEEN RISK FACTORS**

In major studies of children and families on the Isle of Wight and inner London in the 1970s, Rutter and colleagues (1970, 1975) identified a cluster of six factors associated with CD. These included severe marital stress, low socioeconomic class, household overcrowding or large family size, paternal criminality, maternal psychiatric disorder and admission to care of a local public authority.

In New Zealand, the Dunedin and Christchurch Child Health and Development studies arrived at similar conclusions. The families ‘at risk’ were characterised by ‘(a) social and material disadvantage, (b) parental criminality, substance abuse, and other problems of adjustment, (c) impaired parenting and lowered standards of child care, (d) family instability, change and marital conflict’ (Fergusson et al 1994).

The Ontario Child Health Survey (Offord et al 1991), the Cambridge Study of Delinquent Development (Farrington 1985, 1987) and the earlier meta-analytic studies of Loeber and Dishion (1983) confirm these studies.

While parenting variables are extremely important, Rutter and colleagues’ original work (1970) showed that one risk factor in itself is not as predictive of developing delinquency or CD as are a number of factors, each overlapping others. The greater the number of risk factors present, the more likely it is that young people will enter ‘careers’ of antisocial behaviour at an earlier age. Over time they will commit more serious crimes, and their offending will be more likely to persist and to escalate over the course of their adolescence.
Furthermore, just as the total number of risk factors is important, their ‘systemic interaction’ or, as Rutter put it, their ‘potentiation’ of one another must be considered, especially when intervention programmes are being planned. It is likely that the constellation of risk factors is more important than the presence or absence of any one risk factor.

In the case of temperament and perinatal birth injury, it is the interaction with the parents that are as important as the temperament or injury. Where the parent is stressed, unwell and/or naïve of an appropriate response to their child, there is a greater likelihood of mishap. Similarly, antisocial behaviour may become reinforced when a school is unable to manage a child’s behaviour because of lack of access to appropriate support services. Again, in a community where access to good housing, health services and schooling is unavailable, the more likely it is that children will ‘gang’ together for the purposes of reinforcing self-esteem and identity.

It is also important to note that similar epidemiological factors are associated with a range of other disorders including schizophrenia, depressive disorder, substance abuse, and CD (Robins and Price 1991; Yoshikawa 1994).

### PROTECTIVE FACTORS

Certain factors have been identified as protecting the individual against the development of chronic, serious offending despite other risk factors being present. Three classes of factors promoting ‘resilience’ have been identified, including:

- those inherent in the individual
- those related to the development of social bonding
- healthy beliefs and clear standards of behaviour.

Individual protective factors include female sex, high intelligence, positive social orientation and resilient temperament. Social bonding includes warm, supportive, affective relationships or attachments with family members or other adults. It also includes the development of commitment to lines of action valued by a social institution such as school or a religious organisation. Healthy beliefs and clear standards include family and community norms opposed to crime and violence and supportive of educational success and healthy development.

### PREVENTIVE INTERVENTIONS

Given the numerous factors involved in the development of CD, it is no surprise that a wide spectrum of interventions have been instituted in an attempt to reduce the incidence of the disorder. These are classified in terms of their genericism, the populations targeted and the stage of development of symptomatology.

- Primary prevention ranges from those interventions that utilise methods of early intervention with populations defined as ‘at risk’ for having children with CD, to those interventions that are generically applied to ‘normal’ populations.
- Secondary prevention includes those interventions that aim to prevent the further development and consolidation of symptoms in those identified as having early manifestations of CD.
- Tertiary prevention refers to efforts made to reduce the impairment and/or disability caused by an existing disorder.

Some interventions have targeted single risk factors over a short period of time. Other more complex programmes have targeted a number of factors over an extended period.
PRIMARY PREVENTION

Early Family-based Interventions

A number of programmes have sought to intervene early in the life cycle across a range of risk factors. Such programmes aim to reduce the impact of abuse and neglect on young children at risk, before their antisocial behaviours stabilise and ‘secondary impairing conditions’ (eg, peer rejection and academic failure) make an impact (Miller 1994).

Risk factors targeted include:

- family adversity
- parental management
- cognitive development
- social support.

The main group of longitudinal studies in this area includes the:

- Perry Preschool Project (Berrueta-Clement et al 1984)
- Syracuse University Family Development Research Programme
- Yale Child Welfare Research Programme
- Houston Parent-child Development Center.

Other programmes include the University of Rochester Nurse Home-visitation programme, the Gutelius Child Health Supervision Study, and the well-known Head Start programme. These programmes have been described by Zigler and colleagues (1992). All programmes included a controlled evaluation of the intervention and targeted low socioeconomic class communities providing families identified as being at risk. These families were likely to be those who were young, single parents with less than high school education and who were likely to have had a history of arrest or appearance in court.

Some programmes emphasised the reduction of school failure (Perry Preschool Project) while others sought to bolster family and child functioning (Syracuse and Yale programmes).

In the Perry Preschool Project, four-year-olds in the experimental group received high-quality, cognitively oriented, early childhood education for one to two years. Teachers conducted frequent home visits to keep parents apprised of their child’s activities and to encourage participation in the education process. Monthly small-group meetings provided opportunities for parents to exchange views and to support one another’s changing perceptions of child rearing.

The Syracuse programme involved paraprofessionals working with target families once a week to encourage sound mother–child relationships. They provided nutritional information, taught and modelled processes of parent interaction with the child, were supportive of the mother and helped her develop contacts with service agencies and later with elementary school personnel. For the children, the programme provided four-and-a-half years of quality child care with half-time day care to 15 months and full day care until school age.

The Yale programme provided support services to mothers so that they could devote more of their energies to mothering. Clinical and health professionals visited homes regularly to provide counselling on practical issues related to food and housing, paediatric care and making decisions about future
education, career and family goals. Programme workers provided liaison with other services. Paediatric services and child care were provided for 2–28 months from the birth of their child.

In the Houston programme, the major focus was on mother–child interaction during the first year of life. Information was provided by paraprofessionals on baby care and child development, stress management and creating a stimulating home environment. Families attended a series of weekend workshops designed to involve fathers and siblings in the programme. In the second year, child care was provided while mothers attended courses in child management and homemaking.

These programmes have shown a significant impact on reducing delinquency. In the Perry Preschool Project, fewer arrests or charges, generally for less serious crimes, were reported (31 percent of the preschool group had been charged on at least one occasion compared with 51 percent of the control group) (Berrueta-Clement et al 1984).

Ten years after completion of the Syracuse programme, when the children were between 13 and 16 years of age, only 6 percent of the programme graduates in the follow-up sample had been processed as probation cases. This compared with 22 percent in the control group. In addition, the severity of the offences and the degree of chronicity were much higher in the control group.

The Yale programme did not target delinquent behaviour. However teacher ratings showed that the control group boys were likely to show aggressive, acting-out behaviour, while their mothers reported problems that were indicative of CD.

Less impressive outcome data were found in the recent follow-up of the Houston Center programme. Nevertheless earlier evaluations showed that control group boys were more destructive, overactive, more negative attention seeking and less emotionally sensitive than children in the intervention group.

Programmes of these types are currently being developed in Australia and New Zealand. The New Zealand programmes include the Early Start programme in Christchurch, the Naku Enei Tamariki in Lower Hutt and the Healthy Homes programme in South Auckland. All programmes select high-risk families using criteria based on the Hawaiian Healthy Start screening process.

The Early Start programme is based on the longitudinal child development studies of David Fergusson and his colleagues and the Hawaiian Healthy Start programme. It is an intensive, home visiting, family support service. Since the start of the programme 396 families have been screened. Of the 69 who met criteria for referral by Plunket nurses, 55 agreed to be involved in the initial assessment phase of the Early Start service. Of these, 53 families have continued with the programme to date.

Given that the project is in its early stages, results are not yet available to determine its success. Nevertheless a good basis has been established to continue the process. Participating families are well engaged and good results have been reported at medical checks. Family support workers report the same client satisfaction between Māori and non-Māori clients and good liaison between agencies.

The Naku Enei Tamariki (NET) is a community-based network operating in the Hutt Valley, to support mothers in need. NET aims to provide neighbourhood support through home visiting and development of community support networks for mothers.

A similar project (Healthy Homes) was planned by North Health. It was unable to proceed because of a need to allocate funds elsewhere.
**Generic School-based Interventions**

These interventions aim to reduce the likelihood of antisocial behaviour in groups of children that include normal children and those at risk. They represent ‘universal, primary preventive interventions that could be adopted at a relatively low cost’ (Miller 1994).

The Good Behaviour and Mastery Learning Games (Kellam et al 1991) are examples of such interventions. The Good Behaviour Game involves training teachers to undertake a team-based behaviour management strategy in the classroom that promotes good behaviour by rewarding teams that do not exceed maladaptive behaviour standards. The Mastery Learning intervention involves training teachers to improve reading skills in their students.

Aggression diminished as a result of the Good Behaviour Game, particularly in boys as judged by peer evaluation. Reading test scores improved in low-achieving boys, a group known to be at risk for CD. In combination, such interventions have promise; however, results of similar short-term programmes have been disappointing.

The PATHS (Promoting Alternative Thinking Strategies) curriculum – developed as a component of the FAST Track programme, by the Conduct Disorders Prevention Research Group (1996) – is a teacher-led universal intervention directed towards the development of emotional concepts, social understanding and self-control.

A randomised clinical trial with 300 children indicated that compared to controls, children showed post-test improvements in emotional understanding and social problem solving. At one year follow-up, differences emerged on teacher rating and self-report of conduct problems, teacher rating of adaptive behaviour, and cognitive abilities related to social planning and impulsivity.

In New Zealand, the Healthy Schools programme aims to improve the social and emotional environment of schools. It aims to encourage boards of trustees to implement policies and practices within their schools that encourage the development of mental health in the school environment. Not all schools have implemented the policy. However, ideally programmes are implemented that teach children about self-esteem, anger management, conflict resolution and relationships. Teachers monitor the emotional needs of their pupils and devise ways of helping them with specific problems or refer them for specialist help where this is indicated.

The health curriculum being taught in New Zealand schools provides another opportunity to educate young people about health issues. Mental health receives attention in the more progressive schools. However the extent to which this is done depends on the acceptance by teachers and board trustees of mental health as relevant to young people. Neither Healthy Schools nor the health curriculum specifically targets young people with CD.

**Community Interventions**

Interventions aimed at altering disadvantaged and dysfunctional neighbourhoods have included various community mobilisation strategies similar to Neighbourhood Watch in New Zealand. Others include after school recreation and community policing (Brewer et al 1995). There have also been attempts to improve environmental facilities.

These strategies are important but have not been demonstrated to have the impact on at-risk individuals that parent training, social skills training and educational assistance achieve. In their review of 29 studies including vocational and recreational programmes, Joffe and Offord (1987) found little evidence of effectiveness. The better-designed studies, particularly if they used behavioural modification techniques, tended to show more positive results (Hechtman and Offord 1994).
The Healthy Cities policy is a New Zealand attempt to promote community development by city councils in a way that reduces social problems including delinquency. Commitment to the policy is variable and poorly linked to the services provided by the education, health and welfare sectors.

**SECONDARY PREVENTION**

These interventions are aimed at reducing the impact of the disorder on people who have early symptoms.

**School-based Interventions**

Similar configurations of intervention have been targeted at the families of school children. The Conduct Disorders Prevention Research Group (1992) involved 50 schools in four areas of the USA: Nashville, Seattle, Durham and central Pennsylvania. These regions were selected to enable assessment of the effectiveness of the intervention model with children varying in sex, ethnicity, urban versus rural living conditions, social class and family composition.

Children involved met criteria that included disruptive behaviour and poor peer relations at home and school. Goals included:

- reduction of disruptive, aggressive behaviour at home and school
- increases in the social-cognitive skills regulating affect and interpersonal problem solving
- improvement in the quality of peer relations
- gains in academic skills
- improvements in the family–school relationship.

Five integrated programmes provided the central model:

- parent training
- home visiting
- social skills training
- academic tutoring
- teacher-based classroom intervention.

Parent training consisted of programmes involving parents in group and individual family sessions. Parents were taught how to develop an environment of learning in the home and the importance of facilitating a positive relationship with the child’s teacher. They were instructed in strategies to assist their children in anger management and communication.

Parenting skills emphasising the development of positive parent–child interactions focused on:

- teaching appropriate play skills
- differential attention procedures using praise and ignoring
- training in giving clear instructions to increase child compliance
- time out
- establishing rules.
Home visiting reinforced these strategies by teaching parental problem-solving skills, promoting feelings of empowerment and efficacy, and enhancing family organisation. Family workers emphasised a problem-solving approach in which they asked questions of parents and worked with them jointly to solve specific current problems.

Social skills training was provided for groups of target children and was staged to develop skills in children relevant to the group’s process of inclusion, assertion, reciprocity and interdependence. This was supplemented with peer training in which children were assigned to play with target children on a regular albeit rotated basis.

Teacher training was designed to foster self-control, positive peer climate, emotional awareness and interpersonal problem-solving skills of children. Teachers were also taught strategies for the effective management of disruptive behaviour (ie, establishing clear rules and directions, providing positive and corrective feedback for appropriate behaviour, applying reprimands, and time out or cost-response procedures contingent upon the occurrence of problematic behaviours).

These types of programme are still being applied. Greenberg (personal communication, January 1996) comments that results to date indicate:

... strong and consistent evidence for better social skills and positive peer relations as a result of intervention with some, although only partial, indication of fewer conduct problems. Intervention children also developed better basic reading skills than the control children. Intervention parents demonstrated more positive involvement in their children’s schools and more effective discipline strategies, as well as more positive relations with their children [and this] leads us to expect that the intervention children will demonstrate fewer conduct problems in adolescence than control children.

In New Zealand, the Specialist Education Services’ Eliminating Violence programme (developed in South Auckland), is an attempt to target children whose aggressive behaviour has brought them to attention. To date it has shown considerable success. Given the alarming increase in playground aggression, programmes of this type need expansion to include parent training, social skills and cognitive development of children being referred for assistance. Efforts are already underway to involve families and communities in the programme (McGeorge 1995). However, given a reduction in the numbers of psychologists employed in the Specialist Education Services, there have been limits to what can be achieved in practice.

**COMPONENTS OF SUCCESSFUL PREVENTION PROGRAMMES**

The common elements of successful early intervention programmes are (Yoshikawa 1994):

- targeting and having effects on multiple risks such as parenting, cognitive development and social skills
- having an ecological, multiple-setting design such as home and school
- focusing on urban, low-income populations
- maintaining programmes for at least two years
- implementing programmes during the first five years of life.
Tertiary prevention

Tertiary interventions are directed at established disorder. These include treatment interventions and rehabilitation. Effective tertiary prevention also needs to be based on a range of interventions. These are drawn from a spectrum including those targeted at the individual with CD, their family, their social networks and their community. They include:

- community-based interventions
- family therapies
- psychotherapies
- day treatment programmes
- residential programmes.

Community-based interventions include those aimed at exploring and creating supportive systems around the individual and their family. They are directed at and involve the young person’s school, peer group or local community. They may be specific to the individual or aim to improve community systems in a way likely to be beneficial to ‘at-risk’ families in the community.

A range of family therapies has been employed in the treatment of CD. Behaviourally based approaches appear to have some advantage over other therapies. However, there are few good evaluation studies of family therapy in the treatment of CD.

Individual psychotherapy has a limited place in treatment. Again behavioural approaches appear more useful than other types of psychotherapy. However most authors summarising the literature make reference to the place of psychodynamically oriented therapies (Earls 1994).

Kazdin (1993), in his review of the treatment of CD and psychotherapy research, includes problem-solving skills training (PSST) and parent management training (PMT) in the range of psychotherapies. He comments favourably on the results achieved by these methods compared with other therapies. Although he gives recognition to psychodynamic therapies, it is noteworthy that these programmes are behaviourally oriented and use a mixture of individual, group and family-based approaches to treatment.

Day treatment and residential programmes do not receive emphasis in the prevention literature. Inpatient care is reducing in many areas of the world, including New Zealand and Australia. There are considerable problems in defining the relationship between outcomes and treatment factors involved in day and residential programmes.

Nevertheless day and residential programmes play an important role in the management and treatment of CD. In particular, young people who are out of control, who have committed serious offences and who pose a risk to others need close supervision, support and opportunities to learn new behaviours and cognitions. They require structured programmes in safe environments staffed by responsible, professionally trained adults.

Surveys of day programmes (Pruitt and Kiser 1991) and residential programmes (Lewis and Summerville 1991; Dalton and Forman 1992) reveal that a wide variety of programmes are available for young people in the United States. Significantly, CD is seen as one of the more difficult disorders to treat, with poor outcomes being a common result compared with other disorders.

In practice, the most successful programmes utilise individual, group and family therapies, in combination with structured activities and special educational approaches. They employ a multidisciplinary approach and are developed according to the needs of the individual and the preferences of the programme in which he or she is involved.
Pharmacology has little part to play in the treatment of CD apart from the use of stimulants in the treatment of ADHD associated with CD. There may be a place for utilising mood controlling agents such as lithium carbonate, carbamazepine and major tranquillisers such as thioridazine to manage aggression on a short-term basis (Campbell et al 1992). Antidepressants have a place when signs of major depression are present.

An important aspect of secondary and tertiary prevention is the presence or otherwise of an adequately resourced and co-ordinated system of specialist mental health services for young people. In this respect, in 1995 the author developed a set of benchmarks and a service configuration for the Ministry of Health for specialist child and adolescent services (McGeorge 1995).

It was proposed that the Children, Young Persons and Their Families Service should have primary responsibility for young people with CD, and should provide case management and residential services with the support of health services and the Specialist Education Services. Mechanisms to ensure interdepartmental collaboration at government and regional levels were proposed. In addition, the establishment of a comprehensive system of primary prevention and early intervention as proposed in this chapter was also seen as essential.

The New Zealand system of Family Group Conferences (FGCs), specified in the Children, Young Persons, and Their Families Act 1989 is an innovative process for dealing with young people needing ‘Care and Protection’ or under Youth Justice. The principles of family involvement and non-institutional approaches to problem solving have made a major contribution to the management of young people ‘at risk’. There is a need, however, to provide within this framework the recognition that young people with serious CD have special needs. They require, in addition to therapeutic work with their families, opportunities for care and treatment in structured programmes conducted by professionals specially trained and resourced for dealing with the challenges posed by conduct-disordered young people.

At the time of publishing this report, a service to address the needs of young people aged 12–14 years with CD who are under the ‘Care and Protection’ of CYPFS is being established in Auckland. Based on ‘wrap around’ principles (a series of ‘layers’ of support for individuals rather than single isolated interventions), this comprehensive service will have a series of linked programmes in which the young person will be involved. Beginning with an initial intensively supervised behavioural programme, the young person will be sequentially involved in a number of ‘step down’ programmes. These will end in the young person being fostered, or preferably, returning home.

Established CD is resistant to treatment. It is important therefore to be realistic about therapeutic outcomes in a given case. Notwithstanding this caution however, research shows that the best chances of success lie in the development of programmes that are long term (3–10 years) and address the needs of the young person and their caregivers across the range of their needs and disabilities.

Such programmes need to be conducted within a matrix of approaches that both treat disordered behaviour and enable the young person to have opportunities to normalise his or her development. In this regard, Kazdin (1993) comments:

\[
\text{\ldots it may be useful to conceive of treatment as a routine and ongoing part of everyday life} \\
\text{\ldots after improvement is achieved, [following a treatment episode] treatment is suspended rather than terminated. At that point, the child and his or her functioning begin to be monitored systematically and regularly eg every 3 months [with further treatment] \ldots based on the assessment data or emergent issues raised by the family.}
\]

(Kazdin 1993)
In summary, the treatment and rehabilitation of young people with established CD requires comprehensive planning, recognising its multiple origins and impacts including societal attitudes towards violence and the socialisation of violent behaviour.

Behavioural approaches appear to have a significant part to play in treatment. Any treatment and rehabilitation plan needs to have components based on individual, group, family and community aspects of the young person’s system. Finally, objectives need to be modest given the contributions made by biological, developmental and societal factors to the expression of the disorder.

**IMPLICATIONS FOR NEW ZEALAND**

The prevention of CD in New Zealand presents a major challenge to the Government, professionals, families and the community alike. To correct the current trends of increasing violent offending among young people and aggression towards peers and adults alike will be costly and intricate. It will require the involvement of several levels of government, public institutions and the community.

A successful plan should be comprehensive, well resourced and co-ordinated on a long-term basis. It should start with a small number of well-supported pilot programmes in ‘at-risk’ socioeconomic areas. Such areas would have high rates of juvenile offending including school violence, and large numbers of ‘at-risk’ families.

Although dramatic results cannot be expected, there is enough evidence to indicate that benefits will accrue from properly applied and evaluated programmes. Some overseas studies show cost-benefits, in terms of the savings to be made by investing in intervention programmes, compared with the costs of not doing so (Jones and Offord 1989).

An arrest of the existing rates of disorder within the defined areas should be the initial aim rather than major reductions of disorder or offending.

In essence, the research outlined in this chapter indicates the following should be developed in tandem:

- the expansion of early intervention programmes based on the prenatal identification of ‘at-risk’ families and their follow-up, education and support during the preschool and primary school years of their children
- the expansion of parent training courses for those ‘at-risk’ families not involved in other programmes
- training of early child care workers and school teachers in managing aggressive children
- extensive support for the Specialist Education Services’ anti-violence programmes as developed in South Auckland
- anger and stress management media campaigns targeting primary and secondary school age children
- the implementation and monitoring of programmes emphasising the understanding of social process, self-control and stress management in the health curriculum and Healthy Schools programmes
- the development of city council sponsored, community-based programmes in ‘high-risk’ neighbourhoods under the Healthy Cities policy
- the adequate development of specialist child and adolescent services, to support CYPFS, non-government organisations and other agencies
- the development of further programmes for adolescents with CD to include Youth Justice participation.
As indicated, a certain number of these programme ‘building blocks’ have already been established in various areas throughout New Zealand. There are, moreover, capable professionals and volunteers who could either be involved immediately in the services specified above or who could be trained to do so.

The programmes referred to in this paper are still under evaluation and are both complex and costly to implement. Therefore a beneficial strategy could involve drawing existing pilot initiatives together under a structure, perhaps based on the model of the National Crime Prevention Strategy Group, to provide co-ordination and mutual learning between agencies.

Priority should be given to the development of further early intervention pilot projects, such as the Christchurch Early Start programme, before their more widespread implementation.

The Ministry of Education’s Healthy Schools and Specialist Education Services’ Eliminating Violence programme (notwithstanding the recent increase in the funding of the latter) also require expanded support, as does the expansion of CYPFS and specialist child and adolescent mental health services. The last-mentioned should be established to the point where specialist assessment, consultation and treatment can be assured to all individuals and agencies who require such assistance.

The more widespread adoption of the Healthy Cities approach to community development deserves more attention and resources committed to it. However, such an approach should probably be viewed as providing a context for change within communities rather than leading change in itself.

Much remains to be learnt about the application of prevention programmes for CD. This is especially so in New Zealand with its own specific traditions and ethnic mix. This should not, however, delay the development and implementation of programmes in this country. Evidence is accumulating that the prevention approaches outlined in this chapter have a crucial part to play in any strategy to address the consequences of conduct disorder.

REFERENCES


