Introduction

In this talk I will attempt three tasks:

i) A brief review of the evidence showing linkages between childhood conduct problems and later developmental outcomes including crime, imprisonment, mental health outcomes, substance abuse, teen pregnancy, domestic violence and related outcomes.

ii) A more extensive review on the evidence from randomised trials of prevention and treatment programmes.

iii) Examine the issues that arise in translating evidence into practice
The Christchurch Health And Development Study

The Christchurch Health and Development Study (CHDS) is a longitudinal study of a birth cohort of 1265 children born in Christchurch, New Zealand.

This cohort has been studied at birth, 4 months, 1 year, annual intervals to 16 and at 18, 21, 25 (a total of 21 occasions).

As part of this research, extensive data was gathered on childhood behavioural adjustment and outcomes in young adulthood.
Key Findings from the CHDS

On the basis of data gathered from parent and teacher reports over the ages 7-9 years, children were classified on an underlying dimension of conduct problems that ranged from none to severe.
Outcomes at Age 25

Crime

<table>
<thead>
<tr>
<th>Extent of Early Conduct Problems</th>
<th>Low</th>
<th>2</th>
<th>3</th>
<th>High</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome 21-25</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>p</td>
</tr>
<tr>
<td>% Violent Offending</td>
<td>3.2</td>
<td>6.4</td>
<td>11.6</td>
<td>34.8</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>% Arrested</td>
<td>3.0</td>
<td>6.5</td>
<td>15.0</td>
<td>32.6</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>% Imprisonment (ever)</td>
<td>0.2</td>
<td>1.0</td>
<td>5.7</td>
<td>14.3</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

With increasing early conduct problems there were increases in rates of offending, arrest and imprisonment.
# Outcomes at Age 25

## Substance Use

<table>
<thead>
<tr>
<th>Outcome 21-25</th>
<th>Extent of Early Conduct Problems</th>
<th>Low</th>
<th>2</th>
<th>3</th>
<th>High</th>
<th>4</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Nicotine dependence</td>
<td>15.9</td>
<td>26.2</td>
<td>31.3</td>
<td>41.3</td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Alcohol dependence</td>
<td>5.6</td>
<td>5.0</td>
<td>4.8</td>
<td>8.7</td>
<td>NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Illicit drug dependence</td>
<td>5.2</td>
<td>7.8</td>
<td>15.7</td>
<td>19.6</td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With increasing early conduct problems there were increases in rates of nicotine dependence and illicit drug dependence.
Outcomes at Age 25
Mental Health

<table>
<thead>
<tr>
<th>Outcome 21-25</th>
<th>Extent of Early Conduct Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low (1)</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Anxiety/depression</td>
<td>24.4</td>
</tr>
<tr>
<td>Antisocial personality</td>
<td>1.0</td>
</tr>
<tr>
<td>Suicide attempt (ever)</td>
<td>4.4</td>
</tr>
</tbody>
</table>

With increasing early conduct problems there were increases in rates of mental health problems and suicidality.
## Outcomes at Age 25
### Sexual And Partner Relationships

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Extent of Early Conduct Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low 1</td>
</tr>
<tr>
<td>% Multiple (10+) sexual partners</td>
<td>12.3</td>
</tr>
<tr>
<td>% Pregnant/partner pregnant &lt;20</td>
<td>11.7</td>
</tr>
<tr>
<td>% Became parent &lt;20</td>
<td>4.4</td>
</tr>
<tr>
<td>% Inter-partner violence</td>
<td>5.2</td>
</tr>
</tbody>
</table>

With increasing early conduct problems there were increases in rates of sexual risk taking, early pregnancy/parenthood, and inter-partner violence.
Covariate Adjustment

These associations persisted after control for confounding factors and were evident for both males and females.
Major Conclusion

These findings show the pervasive effects of early conduct problems on later development.

It may be argued, plausibly, that no other common childhood condition has such pervasive and far reaching consequences for later development, as childhood conduct disorders.
The Prevention And Treatment Of Childhood Conduct Problems

In the last two decades there has been an explosion of research using randomised controlled trials (RCTs) that have tested the extent to which various interventions are effective in the prevention and treatment of conduct problems in childhood and adolescence.
The Importance of RCTs

The role of RCTs in public and social policy has been controversial with recurrent claims that RCTs are unethical, inappropriate and can be replaced by alternative methodologies using qualitative and observational methods.

These claims have not been substantiated and there is growing evidence to suggest that well conducted randomised trials are the most reliable method for establishing efficacy of interventions.
Prevention Programmes For At Risk Children And Families

Home Visiting:

Most programmes have failed to show benefits. However, two programmes (Nurse Family Partnership and Early Start) have reported that well designed home visiting programmes can reduce conduct problems and antisocial behaviour.
Prevention Programmes For At Risk Children And Families (Cont.)

Centre Based Programmes:

An alternative is provided by centre based programmes which deliver specialised programmes to children from at risk environments.

Examples of successful programmes include the Abecedarian programme and the Perry Preschool programme.
Treatment Programmes
For 3-12 Year Olds

Parent Management Training:

By far the most successful interventions for conduct problems in children are the parent management training programmes based on social learning and behaviour modification methods developed originally by Patterson from the Oregon Social Learning Centre (OSLC).
Successful models include:

• Triple P (Sanders et al 2001)
• Parent Management Training (Patterson 2005)
• Incredible Years (Webster Stratton 1986)
• Parent Child Interaction Therapy (Eyberg et al 1995)
All of these programmes have been evaluated by RCTs and have been adapted to meet the needs of various population groups.
Teacher and Classroom Based Programmes:

These use a similar behaviour management approach to parent training. Successful programmes include:

- Incredible Years Teacher and Classroom Programme (Webster Stratton 2008)

- OSLC Programmes: PASS; CLASS; RECESS; The Good Behaviour Game; First Steps to Success
Teacher and classroom programmes have been less well developed and implemented than parent management training.
Universal School Programmes:

There has been an increasing number of universal school programmes that have targeted such behaviours as bullying. A recent CDC review concluded that there was “strong evidence that universal school based programmes decrease rates of violent and aggressive behaviours amongst school aged children”.
Therapist Based Interventions:

There have been a number of therapist based approaches to addressing childhood conduct problems. The most commonly used approach has been cognitive behaviour therapy (CBT). A recent review by McCart et al found that CBT had similar effect sizes to parent management training but was less effective with younger children.
Treatment Programmes
For 12-17 Year Olds

As children become older, conduct problems and antisocial behaviours become more resistant to change, require more intensive multi modal interventions.

Interventions for which there is evidence of success include:

- Cognitive Behaviour Therapy
- Functional Family Therapy
- Multi-systemic Therapy
- Treatment Foster Care
Treatment Programmes
For 12-17 Year Olds (Cont.)

All programmes are intensive and use a combination of cognitive and behavioural approaches.
# A Proposed Menu Of Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Age</th>
<th>3-7</th>
<th>8-12</th>
<th>12+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Management Training</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>Teacher Management Training</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Combined Parent/Teacher Programmes</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>Classroom Based Intervention</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>Cognitive Behaviour Therapy</td>
<td></td>
<td>–</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Multi-Systemic Therapy</td>
<td></td>
<td>–</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Functional Family Therapy</td>
<td></td>
<td>–</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Treatment Foster Care</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Developing and Implementing Prevention and Treatment Programmes

The above shows that there is a range of well developed theoretically based and well evaluated programmes for preventing conduct problems in childhood and adolescence.

The major issue facing politicians, practitioners and others is no longer that of identifying effective programmes. Rather, it involves translating and implementing what is known.
The Prevention Science Paradigm

The best approach to programme implementation is via a prevention science paradigm.

This requires that:

i) Programmes are selected on the basis of evidence derived from reviews and meta-analyses.

ii) Adequate piloting is conducted to ensure programme acceptability and fidelity.
The Prevention Science Paradigm (Cont.)

iii) Randomised trials are conducted to ensure programme efficacy at the new site.

iv) Programmes are progressively taken to scale with programme effectiveness being monitored.
The Need For a Paradigm Shift in Policy

While the Prevention Science approach provides a sound evidence based approach to the implementation of effective treatments, there are a number of barriers to the uptake of this approach.

These include:

- Unfamiliarity of policy makers with evidence based reviews
- Resistance to changing existing non evidence based policies
The Need For a Paradigm Shift in Policy (Cont.)

- Resistance to RCTs
- Lack of active participation of the research community in the policy development process
- Debates about culture and ownership
- Lack of effective structures for implementing and evaluating new policies
The Need For Increased Uptake In Practice

While there is a strong body of evidence on effective treatments for conduct disorder, the professional uptake of these treatments has been limited. In a recent review of evidence based treatments for children and adolescents Weisz and Simpson Gray (2008) found that:

“most every day clinical practice continues to be characterised by interventions that do not rely on behavioural or cognitive behavioural principles and are not derived from the clinical trials literature”
Reasons For Poor Uptake Of Evidence Based Interventions

1) The conditions under which interventions are developed and tested differ from those of everyday clinical care.

2) Most evaluations have not contrasted interventions with usual clinical care. If this were done, effect sizes may be smaller.
Weisz and Simpson Gray also argue that new methodologies are required to install interventions into the context of existing practice. They propose a 3 stage development approach that parallels the approach used in testing intervention efficacy.
Taking Interventions to Scale in Clinical Practice (Cont.)

Step 1 involves the use of single subject studies within clinical practice to refine the way the intervention is delivered in clinical practice.

Step 2 extends the first stage to group level comparisons to examine the effectiveness of various components of treatment including referral processes, practitioner delivery, engagement etc.

Step 3 involves full scale effectiveness trials in which the outcomes of children treated by trained and proficient clinicians and services are evaluated.
Concluding Comment

The last two decades of the 20th century saw increasing investment into the development and evaluation of effective treatments for childhood conduct disorders. There is now a substantial evidence base on such treatments. The challenge of the 21st century is that of translating this body of knowledge to:

a) Develop effective policies and strategies for the treatment of childhood conduct disorders;

b) Install these treatments within existing clinical practice.