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DOING BETTER WITH "BAD KIDS": EXPLAINING THE POLICY-RESEARCH GAP WITH CONDUCT DISORDER IN CANADA

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ABSTRACT

Conduct disorder (severe and persistent antisocial behaviour in children and youth) is an important community mental health problem in Canada and has been the focus of considerable recent public policy debate. Good research evidence is available on effective (and ineffective) interventions for conduct disorder. Paradoxically, however, relatively little of the research evidence is incorporated into policy decision-making. There is a policy-research gap. An example (Hamilton, Ontario) is used to illustrate this gap. The gap is then explained using a framework for health policy analysis that incorporates values, institutional structures, and information. Values and institutional structures greatly outweigh research evidence in influencing current Canadian policy-making for the problem of conduct disorder. Possibilities for improving the situation are suggested.

> The youth who sprang his girlfriend from Arrell Youth (secure custody) Centre has a record many career criminals would envy. Unfortunately for society, he just turned 15 and has discovered an interest in illegal handguns. "This is a one-kid crime wave," said a Hamilton-Wentworth police officer who spoke on condition of anonymity. "He's not like other child criminals—not even close. He's a bad kid." That kid is in police custody today (Herron, 1995).

"Conduct disorder" refers to severe and persistent antisocial behaviour in children and youth, epitomized by the "bad kid" described in the newspaper quote above. Conduct disorder is an important community mental health problem in Canada and elsewhere (Earls, 1994; Kazdin, 1995; Offord & Bennett, 1994; Robins, 1966, 1991; Rutter, Giller, & Hagell, 1998). Increasing public policy attention has been directed towards improving outcomes for these children and youths, and considerable research has accumulated on effective (and ineffective) interventions.

To date, however, surprisingly little of the best available research evidence has been applied in legislative, administrative, or clinical policy decision-making in

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Canada. Paradoxically, despite widespread public concern about doing better with "bad kids," there appears to be a gap between the best available research evidence regarding effective treatments and the current policies favoured across Canada. We refer to this as the policy-research gap.

In this paper, we first describe the policy-research gap in more detail. We summarize the best currently available research evidence about conduct disorder and use the situation in Hamilton, Ontario, as an example to illustrate how the research evidence is currently poorly applied. We then use a framework for health policy analysis to explain why the policy-research gap persists. The goal of this analysis is to understand the policy-research gap better as a foundation for future efforts to narrow the gap, so that children and youth with conduct disorder may be more effectively helped, and so that related public policy problems may be more effectively resolved.

THE CONDUCT DISORDER POLICY-RESEARCH GAP

Definitions

"Conduct disorder" is a mental health term used in research and clinical settings to refer to children and youth who display severe and persistent patterns of antisocial behaviour. These behaviours include: bullying, cruelty, stealing, weapons use, fire setting, lying, running away, and truancy (Earls, 1994; Kazdin, 1995; Offord & Bennett, 1994; Robins, 1966, 1991; Rutter et al., 1998). Conduct disorder is defined in the latest edition of the *Diagnostic and Statistical Manual* of the American Psychiatric Association (APA) (2000). In order to receive a diagnosis of conduct disorder, children and youth must exhibit at least three severe antisocial behaviours that persist over a year or more and are associated with significant impairments in functioning (APA, 2000).

Youths who are involved with the justice system are often termed "delinquents" or "young offenders" (Bell, 1999; Carrigan, 1998). Since youths may be charged on the basis of relatively minor or time-limited offences, not all "young offenders" merit a diagnosis of conduct disorder. As well, not all youths with conduct disorder have contact with the justice system. Consequently, this paper focuses on conduct disorder because this problem has been well defined in the research literature and because, regardless of whether they enter the justice system, these children and youths display the severe patterns of antisocial behaviour that are the focus of most public policy concern.

The Community Mental Health Problem

Conduct disorder is an important community mental health problem mainly because of the high burden of suffering it causes. In terms of prevalence, conduct disorder is relatively common, affecting approximately 5.5% of children and youths in Canada (Offord, Boyle, Fleming, Munroe Blum, & Rae Grant, 1989). Of the approximately eight million children and youths in Canada aged 0-19 years (Hanvey et al., 2000), therefore, approximately 440,000 may have conduct disorder at any given time. Conduct problems are also the most common reason for referral to children's mental health services (Robins, 1991). While these rates are a concern,

there is no evidence that rates are increasing or that child and youth antisocial behaviour is getting more serious (Doob & Sprott, 1998).

Conduct disorder causes a heavy burden of suffering for the individual children and youths who have it. It usually persists over time and often progresses on a continuum—aggressive children become conduct-disordered youths who later become antisocial adults, particularly if no one intervenes effectively (Offord & Bennett, 1994; Robins, 1966, 1991; Rutter et al., 1998). The more severe the childhood symptoms, the worse the adult outcomes (Robins, 1966, 1991; Rutter et al.). These children and youths also often suffer associated social and academic impairments, as well as co-morbid mental health problems such as substance abuse and attention deficit (Earls, 1994; Kazdin, 1995; Rutter et al.). Essentially, they slip out of the mainstream of Canadian childhood and development.

Finally, conduct disorder also causes a heavy burden of suffering at the broader social level. Most obviously, there are costs for victims of antisocial behaviour. There are also opportunity costs when families, schools, and communities must divert resources from other programs to address antisocial behaviour in children and youth. If youths with conduct disorder have contact with the justice system, there are even higher associated costs (Bell, 1999; Carrigan, 1998). For instance, it costs nearly $100,000 annually just to keep one youth in secure custody in Canada (Werry, 1997). Perhaps most importantly, when Canadian children and youths do slip out of the developmental mainstream, as is the case for many with conduct disorder, their potential contributions are lost locally and globally—to all Canadians.

The Current Research Evidence

Research evidence about conduct disorder comes from a variety of related disciplines including child psychiatry, psychology, education, criminology, and sociology. Conduct disorder has often been approached from one of two theoretical perspectives: either social, moral or biological deficiencies lead to antisocial behaviour (these kids are "bad"); or antisocial behaviour is a reaction to harsh circumstances (these kids are "mad") (Earls, 1994). Recently, most researchers have come to subscribe to more ecological models that incorporate aspects of both perspectives in order to investigate webs of causality, as well as prevention and treatment approaches for conduct disorder (Rutter, 1997; Tremblay & Craig, 1995).

The search for effective prevention and treatment approaches for any problem usually starts with identifying correlates of the problem. Once correlates are known, causal risk factors—measurable characteristics that precede outcomes of interest and reduce risk if they are manipulated (Kraemer et al., 1997)—can then be elaborated.

For conduct disorder, there are many correlates: male gender, poor health, difficult temperament, reduced autonomic nervous system reactivity, academic underachievement, parental criminality, exposure to parental discord, exposure to harsh and inconsistent parenting, large family size, and poverty (Earls, 1994; Kazdin, 1995; Robins, 1991; Rutter et al., 1998). The picture is complicated because many correlates overlap (Offord, 1989). For instance, poverty affects nearly 20% of Canadian children (Hanvey et al., 2000) and correlates strongly with psychosocial morbidity in general, including conduct disorder (Lipman, Offord, & Boyle, 1994).

As well, some important potential correlates, such as the influences of media and genetics, are still being investigated (Kazdin; Rutter et al.). On the protective side, there are several correlates for better outcomes with conduct disorder: easy temperament, above-average intelligence, competence at a skill, good peer relationships, and a good relationship with at least one care-giving adult (Kazdin; Offord).

While there are many correlates for conduct disorder, only three factors have been established as clearly *causal*: exposure to parental discord, exposure to harsh and inconsistent parenting, and academic underachievement (Offord, 1989). In this complex and evolving context, most researchers currently share the view that, overall, conduct disorder is the result of multiple environmental and biological determinants interacting and affecting children's developmental trajectories over time (Earls, 1994; Rutter, 1997). Most researchers also share the view that many children and youths with conduct disorder represent some of the most severely and multiply disadvantaged children and youths in society (Kazdin, 1995; Offord, 1989; Offord & Bennett, 1994; Robins, 1966, 1991; Rutter et al., 1998).

Delineating causal factors usually informs the development of preventive approaches. Preventing conduct disorder is a priority, not only because of the suffering that it causes, but also because treatments (after the problem has developed) are costly and reach only a minority of those in need (Offord, Kraemer, Kazdin, Jensen, & Harrington, 1998; Rae Grant, Offord, & Monroe Blum, 1989; Tremblay & Craig, 1995). Although there is still uncertainty, several prevention approaches show promise: parent training, early child development programs, and school and community programs that assist children and families in their local contexts (Kazdin, 1995). Overall, few preventive interventions have been evaluated for their long-term effects (beyond 2 to 5 years), and little is known about optimal times to intervene (Kazdin). Prevention also has costs. Universal programs avoid labelling and stigmatizing children, but they are also expensive and may provide help to many children and families who are not at risk (Offord et al., 1998). Meanwhile, targeted programs are less expensive but depend on accurately identifying children at risk—which is difficult—and risk exposing identified children to labelling and stigmatization (Offord et al., 1998). Clearly, more research is needed.

Treatment is also a priority given the relatively high numbers of children and youths with conduct disorder, and many treatment strategies have been studied (Earls, 1994; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Kazdin, 1995; Lewis, Yeager, Lovely, Stein, & Cobham-Portorreal, 1994; Sheldrick, 1994; Tolan & Gorman-Smith, 1997; United States Surgeon General, 2001). Although there is still uncertainty here, too, four approaches appear to be effective: cognitive-behavioural problem-solving skills training with children and youth; parent management training; focused family therapy; and multisystemic approaches aimed at children, families, schools, and communities (Kazdin). Most evidence favours tackling conduct disorder early, before it becomes entrenched, and using long-term approaches (over 2 to 5 years or more) (Kazdin; Tremblay & Craig, 1995).

Some treatments are ineffective. Medications have not been shown to work (Kazdin, 1995), except where there are co-morbid disorders such as attention deficit (Klein et al., 1997). There is no research evidence that tough, punitive measures such as prolonged incarceration or "boot camps" are effective (Sheldrick, 1994;

Tolan & Gorman-Smith, 1997). In fact, there is evidence that incarceration probably worsens outcomes (Lewis et al., 1994; United States Surgeon General, 2001). Many popular interventions such as "zero-tolerance" or "tough-love" approaches have yet to be rigorously evaluated (Sheldrick, 1994; Tremblay & Craig, 1995; Werry, 1997). As well, it is ineffective to simply provide individual clinical interventions (such as counselling or psychotherapy) in the absence of other approaches (Kazdin). Finally, given the relatively high prevalence rates for conduct disorder, specialized clinical mental health services alone cannot meet the needs (Rae Grant et al., 1989).

In summary, the best currently available research evidence suggests the following:

1. Conduct disorder is a severe and costly community mental health problem that is well worth preventing and treating effectively if we can.
2. The causal risk factors established so far include exposure to parenting problems and academic underachievement.
3. Effective treatments include long-term, multifaceted programs that target children and families in their community contexts; however, harsh and punitive approaches are ineffective, as are individual clinical interventions alone.

We turn now to illustrating the policy-research gap using Hamilton, Ontario as an example.

Illustrating the Policy-Research Gap: Hamilton, Ontario

Hamilton, Ontario is a medium-sized industrial city with a regional population of approximately 468,000, including 123,000 children and youths (Gardner, Wong, & Offord, 1999). Hamilton is chosen as an illustration because it is situated in Ontario, Canada's most populous province, but is comparable to other Canadian cities in terms of health, education, social, and other services for children and youth. Children and youth in Hamilton are also affected by provincial and federal government initiatives that apply to conduct disorder. While Hamilton and Ontario policies and programs may not exactly mirror the situation in all communities and provinces in Canada, Hamilton does serve to illustrate how well (or poorly) the research evidence is applied in deciding on policies and programs for children and youth with conduct disorder.

Given prevalence rates of 5.5% (Offord et al., 1989), approximately 6,700 of the 123,000 children and youths in the Hamilton area are estimated to have conduct disorder at any given time. More than 40 different Hamilton organizations provide education, counselling, advocacy, and related services (such as child protection and residential treatment) for children and youth (Community Information Service, 1999). Most of these organizations do not have specific mandates or programs for children and youth with conduct disorder. Furthermore, there is little co-ordination between the disparate agencies such that despite the relatively high numbers of programs, children and youth are nevertheless not always well served.

Two children's mental health clinical agencies, however, do provide more focused assessment and treatment for children and youth with a range of mental health problems, including conduct disorder. Combined, these two agencies annually see approximately 1,250 children and youths who are referred specifically for

problems with aggression or antisocial behaviour (Chedoke Child and Family Centre, 1997; James & McMeekin, 1996; McNamee, Offord, Boyle, Friedrich, & MacLeod, 1995). This means that of the 6,700 children and youths in the area estimated to have conduct disorder, fewer than 20% may be served at any one time through these clinical agencies. As well, many of the services involve time-limited and clinic-based psychotherapies, not long-term or multifaceted approaches (Chedoke Child and Family Centre; James & McMeekin).

Of course, Hamilton health, social and education programs exist in and are influenced by the larger context of shifting Canadian federal and provincial fiscal and social policies. Governments at all levels in Canada have reduced health and social spending in recent years (Banting, 1995; Pierson, 1994), resulting in funding cuts to many children's programs in communities like Hamilton. These cuts have occurred even though governments and advocacy groups have produced numerous reports over the last decade favouring more (not less) investment in children's programs in general (Federal, Provincial and Territorial Advisory Committee, 1994; Government of Canada, 1992; Guy, 1997; McCain & Mustard, 1999; Ontario Premier's Council, 1994; Scott, 2000).

Along with funding cuts, children's programs and services in Hamilton (and elsewhere in Ontario) are also fragmented across many jurisdictions and agencies (Ontario Premier's Council, 1994). In Hamilton, the more than 40 agencies serving children and youth, funded by multiple departments and levels of government (Community Information Service, 1999), constitute an inordinately large and awkward system. There is also little co-ordination of services, despite recent attempts to change this (Ontario Ministry of Community and Social Services, 1997), with the result that it is often difficult for community agencies even to meet children's basic needs, let alone integrate research evidence on an ongoing basis. Until recently, there has also been no systematic monitoring of relevant child health and social indicators at the population level (Gardner et al., 1999).

Finally, the federal government plays a role in the lives of many children and youths with conduct disorder in Hamilton, as it does across Canada, when these children and youth come into contact with police and the justice system. The Young Offenders Act, federal legislation that went into effect in 1984, covers all children and youths aged 12 to 17 years who are charged with crimes in Canadian provinces and territories (Justice Canada, 2001). Provincial governments then administer all court and correctional programs for children and youth (Justice Canada). Many children and youths with conduct disorder in Hamilton and elsewhere receive services principally through the justice system, rather than through the health, education, or social sectors. Usually these services involve periods of probation, with incarceration for more serious crimes, and only limited attempts at treatment or rehabilitation (Justice Canada).

Many Canadians have recently been calling for more severe punishments for antisocial children and youth ("Crime and punishment," 1999; Federal-Provincial-Territorial Task Force, 1996; Geddes, 1999; National Crime Prevention Council, 2000; Shapiro, 1999; Sheppard, 2000; "What to learn," 1997). The federal government has introduced a new Youth Criminal Justice Act that attempts to address some of this perceived demand for more "law and order" (Justice Canada, 2001). As well, some provincial governments have moved ahead with more punitive ap-

proaches on their own (Doob & Sprott, 1996). Ontario, in particular, has introduced harsher measures such as "boot camps" for young offenders ("Crime and punishment"; "What to learn"), affecting many children and youths in Hamilton.

To summarize the policy-research gap for conduct disorder as illustrated in the Hamilton example, three key areas stand out:

1. Conduct disorder is a severe and costly community mental health problem that is well worth preventing and treating effectively; however, most children and youths with the problem are not positively served.
2. The causal risk factors established so far relate to social factors beyond children's control, such as parenting problems and academic underachievement, but current Hamilton, Ontario, and Canadian policies and programs do not appear to take these factors into account.
3. Effective treatments include long-term, multifaceted programs that target children and families in their community contexts; however, these interventions are not being used, and instead, resources go to either short-term clinical programs or to punitive programs, both of which are relatively ineffective and costly.

There is a disparity between the best available research evidence and what is put into practice with children and youth with conduct disorder in Hamilton (and elsewhere). We turn now to a health policy analysis frame-work to explain this policy-research gap.

EXPLAINING THE POLICY-RESEARCH GAP

Put simply, policies are rules or approaches to solve problems (Lomas, 1997, 2000). Policy analysis essentially involves "weaving narratives about human behaviour" (Postman, 1988) to explain how policies develop, or to suggest how they may be changed. Lomas (1997, 2000) suggests a tripartite framework for health policy analysis that incorporates values (ideologies, beliefs, and interests), institutional structures for decision-making, and information (producers and purveyors) (figure 1). We use this framework to explain the conduct disorder policy-research gap with reference to the Hamilton example.

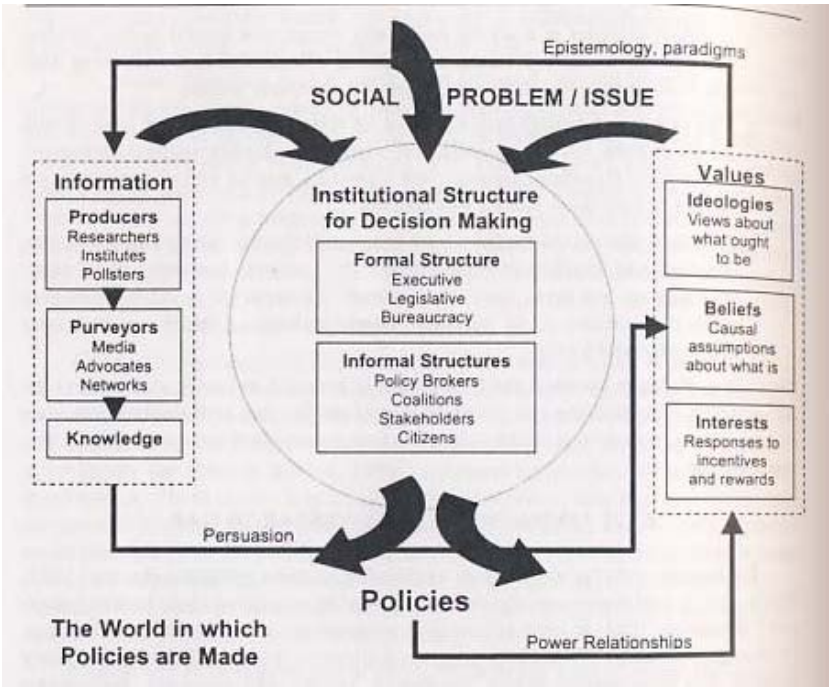
Values

In Lomas's (1997, 2000) framework, values comprise ideologies (views about what "ought" to be), beliefs (causal assumptions about what "is"), and interests (responses to incentives and rewards). Debates in health policy (or any field) arise when different beliefs are advocated by opposing coalitions. While debates about beliefs may be explicit and relatively easily influenced by new information (such as research evidence), debates about ideologies and interests are often implicit and relatively impervious to change (Sabatier, 1993). The ideologies, beliefs, and interests of several key groups contribute to the policy-research gap for the problem of conduct disorder.

Ideologies. In Canada, the prevailing public policy view in recent years has been that economic goals ought to supersede broader social goals, at least temporarily, in order to reduce government deficits. A neoconservative focus on economic efficiency at all levels of government has arguably come to dominate many

FIGURE 1

A Framework for Health Policy Analysis
Source: Modified from Lomas (1997, 2000)



public policy considerations in Canada (Banting, 1995; Camp, 1995; Pierson, 1994). This view, demonstrated in the myriad federal and provincial government funding cuts over the past decade affecting health and social services (Banting; Camp; Pierson), has been fuelled, or at least accompanied, by a widespread decline in civic engagement, which some critics have attributed to a rise in individualism (Putnam, 2000). Others have decried the resulting transformation of many Canadians "from citizens to consumers" (Thorsell, 1995).

Ontario has recently been a particularly vociferous champion of neoconservatism with an individualistic twist, adopting a "common sense revolution" that has "cut the size of government" because "Ontario is broke!" (Progressive Conservative Party of Ontario, 1994). While it is seldom explicitly acknowledged, neoconservative and individualistic views have contributed to many Canadians' curtailing the social investments they are willing to make to assist others, particularly the disadvantaged (Saul, 1995; Sheppard, 2000). In the Hamilton example, there has been

a direct impact on children and youth with conduct disorder—funding cuts mean fewer supportive programs. Ironically, in a climate favouring efficiency, the punitive approaches often promoted as substitutes are also more costly than other kinds of community programs.

On another level, moral views that antisocial children and youth ought to be punished and held accountable for their behaviour appear to prevail among Canadians who have been demanding harsher punishments (Everett-Green, 1997; Federal-Provincial-Territorial Task Force on Youth Justice, 1996; Howard, 1997; Sumi, 1997). These views seem to outweigh considerations that children and youth are influenced by their contexts, for which adults are responsible. As well, it is paradoxical that once children and youth attain a certain age (or cross a certain behavioural boundary), we no longer appear to regard them as children (Rosenblatt, 1995; Talbot, 2000). Rather, we redefine them as delinquent (undeserving), instead of disadvantaged (deserving), and hold them responsible for their actions and problems as if they were adults. These moral views often remain implicit, but nevertheless may inspire the demands for harsher measures and therefore contribute to the policy-research gap for conduct disorder.

Beliefs. Influenced by portrayals in popular media, some Canadians appear to clearly believe that child and youth antisocial behaviour is on the rise, and that punitive measures (such as "boot camps") are effective (Everett-Green, 1997; Howard, 1997; Sumi, 1997; “What to learn,” 1997). These key beliefs are directly at odds with the best currently available research evidence and probably perpetuate the policy-research gap by supporting ideologies that favour increasing punitive measures. On the other hand, these beliefs might be malleable if research information about other approaches was more effectively disseminated. For example, many Canadians might favour early treatment interventions for conduct disorder if they knew that these were more effective (and less costly) than punitive approaches.

There also appears to be broader debate about how best to approach children and youth who have complex problems like conduct disorder. Many Canadians promote the view that it is intrinsically worthwhile to act in children’s best interests more of the time (Federal, Provincial and Territorial Advisory Committee, 1994; Government of Canada, 1992; Ontario Premier’s Council, 1994; O’Reilly, 1995; Scott, 2000). Many Canadians also promote the view that “investing in children” will ultimately benefit all Canadians through reduced “downstream” health and social service costs and through enhanced human potential (Guy, 1997; Hertzman & Wiens, 1996; McCain & Mustard, 1999). While debate continues, at least there are competing views in the mix.

Interests. The interests of many Canadians arguably play a role in perpetuating the policy-research gap for conduct disorder. At the legislative level, political leaders (who set legislative policies and ultimately fund government programs) obviously have an interest in obtaining votes and staying in power. They are also accountable to their electorate and to various interest groups. If the public mood is perceived as tough and conservative, it is in politicians’ interests to respond with “get tough” programs for young offenders—as has happened in Ontario (Progressive Conservative Party of Ontario, 1994)—despite the research evidence that these approaches are not effective or efficient. Politicians are also accountable to interest groups that influence governments to pursue fiscal restraint at the expense of social

programs (Banting, 1995; Camp, 1995; Pierson, 1994).

At the administrative and clinical levels, the interests of administrators and practitioners may also influence the policy-research gap. Historically, Canadian community services were principally provided by religious organizations that depended on volunteers and had minimal government funding (Pennock, 1994). As the twentieth century progressed, however, public funding increased and community services became increasingly dominated by professional groups (Pennock). As part of this process, the clinical enterprise grew—despite critiques that clinical services are costly, reach only a minority of those in need, and have limited impact on population health outcomes for problems like conduct disorder (Ontario Premier's Council, 1994; Rae Grant et al., 1989). While many social programs in Canada have been scaled back recently, significant resources remain linked to clinical models (Pennock; Rae Grant et al.), as illustrated in the Hamilton example, suggesting that the interests of administrators and practitioners may prevail over the research evidence at times in this arena as well (Pennock).

Institutional Structures for Decision-Making

In addition to values, institutional structures for decision-making also influence how policies are made and how research information is used (or not used), as depicted in figure 1 (Lomas, 1997, 2000). Formal decision-making structures include legislative and administrative branches of government. However, much policy decision-making also happens informally, influenced by stakeholders, coalitions, and power relationships (Lomas, 1997, 2000). With conduct disorder, both the formal service delivery structures and informal citizens' coalitions play a role in perpetuating the policy-research gap.

Federalism is a salient aspect of all formal institutional decision-making in Canada (Banting, 1995). The country's institutions have developed within the context of the larger Canadian identity, which has sometimes been defined in reaction to the United States (Lipset, 1990). Canadians have emphasized "peace, order, and good government" in contrast to the American emphasis on "life, liberty, and the pursuit of happiness," and as a result, Canadian policy-making has tended to be relatively incrementalist and collectivist (Lipset). This incrementalism produces stability, but it can also make change slower (Lomas, 1990). For instance, the recent legislative reforms introduced by Justice Canada (2001) represent an attempt to balance competing views on whether to emphasize punishment or treatment for antisocial children and youth. However, these reforms will not likely produce a dramatic solution to the conduct disorder policy-research gap because they represent incremental changes only.

Formal institutional structures for decision-making also affect the policy-research gap in another more immediate way for children and youth in the tremendous fragmentation of services, as seen in the Hamilton example. Without better co-ordination of services, it is difficult to provide for the basic needs of children and youth, let alone integrate research evidence into policy-making.

In addition to formal structures, citizens' coalitions constitute important informal structures for decision-making. Citizens' groups are influential, especially if they are well organized (Lomas, 1997). One such group relevant to conduct dis-

order is Canadians Against Violence Everywhere Advocating its Termination (CAVEAT), a coalition of crime victims, police, lawyers, and other citizens that focuses on antisocial behaviour and crime. In its work, CAVEAT often capitalizes on public beliefs that antisocial behaviour and crime are increasing (Everett-Green, 1997; Howard, 1997; Sheppard, 2000), and lobbies politicians to "get tough" in response (CAVEAT, 1997). Politicians appear to have been influenced by this advocacy and have responded with harsher measures for antisocial youth (Progressive Conservative Party of Ontario, 1994). The federal government has also addressed some of CAVEAT's concerns in its amendments to the Young Offenders Act (Justice Canada, 2001). In contrast, no comparable citizens' coalition lobbies on behalf of children and youth with conduct disorder.

Information

Information, the third component of the health policy analysis framework depicted in figure 1 (Lomas, 1997, 2000), must be both produced and purveyed effectively in order to create knowledge that is useful in policy decision-making (Lindblom & Cohen, 1979; Weiss, 1977). Research knowledge is not automatically usable knowledge and any knowledge must be effectively disseminated if it is to be taken up (Lomas, 1990). Research dissemination issues play a key role in perpetuating the conduct disorder policy-research gap.

Concerns about research dissemination have developed over the past century in many fields, including agriculture, education, and social services (Rogers, 1995). In the health field, much research has concentrated on the dissemination and uptake of research findings for clinical practitioners, particularly physicians. Many researchers have documented the limitations of various vehicles designed to improve professional practice through research dissemination, including clinical practice guidelines and continuing education modalities (Cabana et al., 1999; Davis & Taylor-Vaisey, 1997; Felch & Scanlon, 1997; Lomas, 1997). Despite their limitations, practice guidelines for health practitioners—including guidelines for conduct disorder (American Academy of Child and Adolescent Psychiatry, 1997)—have proliferated with little evaluation of their impact on clinical practice or population health (Lomas, 1997). Despite many demonstrations of what does not work to disseminate research, there is still little certainty about what does work, let alone about what works in what kinds of settings for what kinds of decision-makers (Lomas, 1997).

Several authors suggest possible explanations for this continuing conundrum. Pless (1982) describes a rift between knowledge production and consumption, and challenges researchers to take more responsibility for effectively conveying their findings to practitioners. Huberman and Ben-Peretz (1994) suggest that research findings enter a "force field" of local interests, a process often poorly understood by researchers, and argue for more collaborative models to bridge the separate cultures of researchers and practitioners. Meanwhile, little research has focused on dissemination to decision-makers outside clinical practice settings (such as legislative or administrative decision-makers).

In addition, research information likely has most impact when it is congruent with the current values and institutional arrangements in society (Lomas, 1997; Weiss, 1977). Values can effectively screen information, as shown in the literature

on cognitive dissonance demonstrating that people often creatively reinterpret information that is incompatible with their values (Plous, 1993). Scientists, too, discard facts that do not fit with dominant paradigms (Kuhn, 1970). Sabatier (1993) notes that time may also be a factor, suggesting that policy-oriented learning may take a decade or more, particularly where ideologies conflict and issues are complicated. For conduct disorder, the research information may clash with current ideologies favouring economic efficiency, individual responsibility, and punishment, making uptake of research findings less likely, particularly if they point to relatively complicated solutions.

Researchers may also impede the effective dissemination of information to citizens, media, and policy-makers, adding to the policy-research gap. Many researchers hold a "rational actor" view that simply providing research information is sufficient to change opinions and behaviour (Lomas, 1997). This belief may lead researchers to make limited use of potential links with popular media and policy-makers, with the result that research evidence is not well communicated and therefore cannot contribute to changing beliefs. For instance, the message that there are effective treatments for conduct disorder has not been clearly conveyed.

Popular media play an important role in disseminating many kinds of information, including research information. Science and journalism have been described as two solitudes (Desbarats, 1994), although some authors note that research coverage in popular media positively influences scientists' own perceptions of the importance of the research (Phillips, Kanter, Bednarczyk, & Tastad, 1991). Coverage of research in popular media can facilitate substantial changes in public behaviour as well (Soumerai, Ross-Degnan, & Kahn, 1992). Journalists have been shown to rely on researchers for many of their ideas (van Trigt, de Jong-van den Berg, Haaijer-Ruskamp, Willems, & Tromp, 1994), even though journalists may have difficulty critically evaluating scientific evidence (Entwistle, 1995). In short, media coverage influences both researchers and the public, but journalists also depend on researchers for much of their information, further suggesting a role for researchers to engage more effectively with media regarding an issue like conduct disorder in order to narrow the policy-research gap.

The institutional structures inherent in popular media may also constrain journalists and contribute to problems in disseminating research information for a complex problem like conduct disorder. Journalists, inundated daily by many competing sorts of information, must react with short notice on topics they have little time to research and must often placate editors who favour simple stories or "bad news" even if the issues are complex (D'Adler, 1988). The popular media are also subject to pressures from interest groups and pressures to stay in business (Desbarats, 1994). With conduct disorder, "bad news" about "bad kids" may be easier to sell than coverage of complex research findings. If popular media coverage in turn influences policy-makers and the public, this "bad news" bias may help perpetuate the conduct disorder policy-research gap.

Finally, ambiguities and complexities inherent in the research evidence may contribute to the policy-research gap for conduct disorder. For research messages to overcome multiple barriers, it helps if findings are not only congruent with the dominant ideologies but also easy to understand. The research evidence on causal risk factors suggests that conduct disorder arises as a result of relationships between

a child's developmental context and the quality of parenting and community support available. This is not a simple message to convey. The research evidence on effective treatments for conduct disorder is relatively clear in comparison—there are four approaches that work—but this information has yet to be well disseminated, another contributing factor in the policy-research gap.

SUMMARY AND CONCLUSIONS

Despite the importance of conduct disorder as a community mental health problem, and despite the existence of research evidence about causal factors and treatments that work, a policy-research gap persists, with the result that many children and youths (and their families and communities) are not effectively helped. This gap is explained using a framework for health policy analysis (figure 1). A complex calculus of values (ideologies, beliefs, and interests) and institutional structures—including the values and structures inherent in the nature of information—influences how information arising from research evidence is used (or not used) in policy decision-making. Research evidence is necessary, but not sufficient, to compete with values and institutional structures to influence decision-making for the problem of conduct disorder. The conduct disorder policy-research gap may be particularly hard to reduce because factors in *all* aspects of the framework for health policy analysis (figure 1) are affected: values, institutional structures, and information. What can help change this situation? Several suggestions for narrowing the policy-research gap arise from this analysis.

In the framework for health policy analysis that we use, values comprise ideologies, interests, and beliefs. Ideologies and interests are likely more entrenched and not particularly amenable to change. Beliefs may be worth targeting, however, because they are more easily influenced by new information. One fruitful starting point for integrating more research evidence into policy-making may involve targeting two erroneous beliefs affecting many policy-makers and citizens—that child and youth anti-social behaviour is increasing, and that punishments are effective. Clear information needs to be conveyed to challenge these two beliefs. Concomitantly, strong messages need to be conveyed about effective treatments. Purveying information to challenge popular beliefs may help reduce the policy-research gap.

Ironically, some of the currently favoured ideological prescriptions may also inadvertently help narrow the policy-research gap. Ideologies favouring economic efficiency in government may lead to closer review of program effectiveness, with the potential result that the research evidence (if it favours less costly approaches) is used more. For instance, the Ontario government has recently funded more early child development programs on the understanding that investing in needy children early will save the system money in the long run (Ontario Ministry of Community and Social Services, 2001). Future efforts could also involve conduct disorder.

Several strategies could also improve the way in which research information is disseminated in general. For those who produce research information, popular media are worth targeting much more strategically. While we still do not know what works best to disseminate research information, we do know that popular media can influence the behaviour of researchers as well as the public and policy-makers. Researchers could use more sophisticated social marketing strategies and

could cultivate ongoing media relationships to convey results more effectively. Researchers could also consider decision-makers' work contexts more carefully. Information exchange needs to be improved among all the groups involved, and more research is needed on effective approaches for disseminating research to all kinds of users.

It is also helpful to recall that policy learning may take a decade or more (Sabatier, 1993). For instance, it has been more than a decade since ideas about the social determinants of health were first raised for wide debate in Canada (Marmor, Barer, & Evans, 1994), including ideas about the importance of investing in early childhood development (McCain & Mustard, 1999). It has been more than a decade since Canadian research was first published suggesting the need for widespread children's mental health reform (Rae Grant et al., 1989). It has been more than a decade since Canadian research was first published on the difficulties in disseminating clinical practice guidelines (Lomas et al., 1989). More time may be needed for the research messages about conduct disorder to get out, particularly where the research evidence contradicts deeply held ideologies and where public opinion is divided.

Whitehead (1933) suggested, "The deepest definition of Youth is, Life as yet untouched by tragedy" (p. 287). In our time, tragedy may be inevitable for some children and youths with conduct disorder, as well as for members of society affected directly and indirectly by conduct disorder. However, knowing what prevents us from using the research evidence more readily to help these children and youths may be a starting point for reducing the policy-research gap and ensuring better outcomes in order to minimize tragedy for all concerned.

RÉSUMÉ

Ces dernières années, il y a eu des débats publics importants au sujet du désordre de conduite (comportement antisocial sévère et persistant chez les enfants et les adolescents et adolescentes), un problème de santé mentale communautaire de taille au Canada. La recherche démontre clairement quelles interventions sont efficaces pour traiter le désordre de conduite, et quelles interventions ne le sont pas. Cependant, relativement peu de cette recherche est incorporée au processus décisionnel. Il y a un écart entre la politique et la recherche. Une étude de cas est employée pour illustrer cet écart. On explique alors l'écart en utilisant un cadre pour l'analyse de politique de santé qui incorpore les valeurs, les structures institutionnelles et l'information. Les valeurs et les structures institutionnelles semblent avoir beaucoup plus d'influence que la recherche sur le processus décisionnel en ce qui concerne le problème du désordre de conduite. On trace les grandes lignes des suggestions pour améliorer la situation.

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